

EXPANSION OF ACCESS TO HEALTHY FOODS
FOR SNAP-ELIGIBLE HOUSEHOLDS TO REDUCE
FOOD INSECURITY THROUGH THE CREATION OF AN
ACCOUNTABLE CARE COMMUNITY IN
CUMBERLAND COUNTY, NORTH CAROLINA

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ABSTRACT

Kathryn L. Bannantine, Madeleine A. Smith, and Megan M. Telfer: Expansion of Access to Healthy Foods for SNAP-Eligible Households to Reduce Food Insecurity Through the Creation of an Accountable Care Community in Cumberland County, North Carolina
(Under the direction of Dana Rice and Seema Agrawal)

The system of food insecurity in Cumberland County, North Carolina does not provide adequate food options to the community. It creates limited access to affordable local produce and impacts households living in poverty that are not maximizing the use of Supplemental Nutrition Assistance Program (SNAP) benefits, amplifying poor health outcomes. An Accountable Care Community (ACC) will be established in Cumberland County, North Carolina, to address the social determinant of health of economic stability by reducing food insecurity. This will be accomplished through the expansion of access to healthy foods by enacting a policy to allow SNAP benefit purchasing power at local farmers' markets in the county. The ACC partners include, but are not limited to, the Cumberland County Public Health Department, Cumberland County Department of Social Services, the Fayetteville Farmers' Market Association, and local vendors and farmers.

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COMMON PROPOSAL

ACC Project Aims and Goals

Economic stability has an impact on a person's health, safety, and well-being, but also on healthcare utilization and costs (Healthy Opportunities, n.d.). Food insecurity is used as an indicator of economic instability. Food insecure households make trade-offs between important basic needs, such as housing or medical bills, and purchasing nutritionally adequate foods (Feeding America, n.d.). There are health, financial and racial disparities present in Cumberland County, North Carolina (NC) that are linked to food insecurity. For example, heart diseases and diabetes are two leading causes of mortality in the county and are both negative health outcomes of food insecurity (Cumberland County Department of Public Health, 2019).

The Accountable Care Community (ACC) aims to develop and implement a policy to make farmers' markets in Cumberland County inclusive of SNAP (Supplemental Nutrition Assistance Program)-eligible households by accepting Electronic Benefit Transfer (EBT). This policy is needed as there are currently no farmers' markets in the county accepting EBT payment. Improving access to fresh foods for those who are SNAP-eligible is a way to reduce food insecurity in the community and address the social determinant of health of economic stability.

The short-term goals of this proposal include increasing fruit and vegetable consumption in SNAP-eligible households, increasing produce sold at farmers' markets, and establishing one farmers' market that accepts SNAP benefits. These goals will be met within three years of the proposal's implementation. The long-term goals include increasing local farmers' income, scaling up implementation by establishing more EBT-accepting markets in the county, and serving more SNAP-eligible households. Over time, the ACC's proposal will reduce food insecurity and improve economic stability and health outcomes among SNAP-eligible households in Cumberland County. See Appendix A, Table 1.

Proposed Innovation and Transformation

SNAP is a federal program that “provides timely, targeted, and temporary benefits to people in need so that Americans have access to nutritious food” (“Understanding SNAP, the Supplemental Nutrition Assistance Program,” n.d.). SNAP benefits are delivered monthly through EBT cards so households can purchase nutritious foods at authorized retailers (“Understanding SNAP, the Supplemental Nutrition Assistance Program,” n.d.). The percent of households with children that participate in SNAP in Cumberland County is 54.9%, higher than the state value at 52.6% (American Community Survey, 2012-2016). In order to expand equitable access to healthy food and take advantage of SNAP in Cumberland County, the Cumberland County Board of Commissioners will enact a policy mandating farmers’ markets in the community to accept EBT payment and maintain the necessary equipment to establish and operate a farmers’ market SNAP program.

A US Department of Agriculture (USDA) report shows that there is a disproportionate amount of SNAP money used for unhealthy foods. SNAP beneficiaries are spending only 40 cents per dollar on basic food items, while the other 60 cents is spent on processed and junk food items (O'Connor, 2017). In a sense, this federal government program is subsidizing unhealthy eating and perpetuating the public health issue of food insecurity. The proposed policy mandates SNAP inclusion in farmers’ markets to encourage the purchase of fresh produce by those who are food insecure and increase the number of locations in the county that accept SNAP benefits, thus boosting the economy, especially for local farmers.

SNAP acceptance is already in place in many farmers’ markets around the country and state. There were 95 SNAP-authorized farmers’ markets in NC in 2019 (“Farmer/Producer,” n.d.). In 2017, \$24.4 million in SNAP benefits were redeemed at farmers’ markets across the US, a more than 35% increase since 2012 (Farmers Market Coalition, 2020). Increased SNAP use at farmers’ markets will increase the amount of money being funneled towards local produce and thus serve as a boost to the local economy. This rise in local produce sales

indicates that more people are accessing healthier foods and using the SNAP program for its intended purpose of assisting those who are food insecure and otherwise may not be able to purchase nutritious food. The proposed policy benefits Cumberland County as it addresses food insecurity and provides access to fresh fruits and vegetables to those who are SNAP-eligible and experiencing economic instability, therefore improving health outcomes.

Potential Public Health Impact

Within Cumberland County, it is estimated that 55,980 people are food insecure, representing 16.9% of the county's overall population (Feeding America, 2018). See Appendix A, Figure 1. One in five residents in the county lack constant access to a reliable food supply, including but not limited to fruits and vegetables (North Carolina Division of Public Health, 2018). The ACC's proposed policy will have a direct impact on food insecurity for Cumberland County residents.

In conjunction with this policy reform, other activities surrounding outreach and education will be required. Notification of the use of SNAP benefits at local farmers' market will be disseminated to the community, with specific emphasis on SNAP-eligible households. The information dissemination strategy will be based on the successful efforts shared by other NC counties who have already implemented SNAP use at farmers' markets and communicated the intervention with their communities. An example is Durham County, NC, who has accepted SNAP/EBT benefits since 2014 with much success ("Food Programs," n.d.). Increasing EBT purchasing power at farmers' markets means more fresh, nutritious foods are available to families who need it, and millions of dollars in revenue go directly to farmers (Farmers Market Coalition, n.d.).

Limited data is available surrounding return on investment (ROI) and quantitative impact on the amount of local produce consumption in SNAP-eligible households in other counties that have implemented the proposed policy. This is an opportunity for addressing a gap in the literature, creating innovation through policy implementation, and data monitoring and

evaluation. Access to farmers' markets and other barriers faced by the community should be considered if the policy reform is to be successful. Anticipated challenges may include accessibility to SNAP-eligible farmers' markets, considering poverty being linked to barriers with transportation (CHNA, 2019) and 30.2% of residents reporting low access to a grocery store (North Carolina Institute of Medicine, n.d). Location of the farmers' market should therefore be carefully considered. Another challenge to consider is food-selection behaviors and level of motivation from members of SNAP-eligible households to use farmers' markets as the preferred method of purchasing food. Additionally, there may be limited resources in Cumberland County to cover the funding to promote and educate the community on the new policy.

Outcomes, Milestones and Deliverables

After policy implementation, it will be important to monitor and evaluate its impacts to better understand outcomes, milestones, and deliverables relevant to the policy. The key milestones of the proposal are the short-term and long-terms goals that were previously stated. Success is defined when Cumberland County sees positive impacts in the community through reduced food insecurity in SNAP-eligible households and increasing economic stability. Healthier eating reduces negative health outcomes associated with food insecurity. A secondary success is improving economic stability of the vendors at farmers' markets through SNAP purchases.

For the policy to be successful, the key stakeholders will work on the deliverables of increasing awareness of SNAP benefits, facilitating SNAP applications, researching and analyzing SNAP benefits at farmers' markets that utilize the SNAP program, and evaluating the use of SNAP at Cumberland County farmers' markets after specific milestones are reached. Completing each deliverable will help reach the short-term and long-term outcomes of the policy. These outcomes will mark the milestones of the policy. See Appendix, Table 1.

The overall assessment and evaluation plan for the success of the policy will be measured by the Cumberland County State of the County Health (SOTCH) report and

Cumberland County Community Health Needs Assessments (CHNA). The SOTCH and CHNA assess the success of reducing economic instability and increasing food security. These reports also identify shifts in health of the community through surveys and lower rates of chronic illnesses. The secondary success of improving economic stability in farmers' market vendors will be assessed by looking at vendor profit and loss portions of budgets. The assessment and evaluation for how the policy is working within each farmers' market will be done through continuous quality improvement, using surveys and the Community Health Assessment and Group Evaluation (CHANGE) tool (CDC, 2018).

In order to ensure the proposed policy transformation is sustained within Cumberland County, two practices must be maintained. First is to focus the proposal on a community-organization level (Briggs et al., 2010). Community engagement on all levels has shown to address barriers for SNAP beneficiaries, allow for new hiring strategies and keeping communication open (Briggs et al, 2010). Second is to take advantage of NC's agreement with Fidelity Information Services (FIS) financial systems providing free wireless equipment to farmers' markets that use EBT and thus lowering startup costs and keeping monthly fees low. The associated monthly fee for FIS equipment is \$45.00 any month the equipment is used with an \$0.11 fee per transaction (Farmers Market Coalition, 2020). FIS also provides technical support for participating farmers' markets.

Team

Key stakeholders that will be included in this ACC are the Cumberland County Department of Public Health, Cumberland County Board of Commissioners, Cumberland County Department of Social Services, Fayetteville Farmers' Market Association, Reilly Road Farmers' Market, and SNAP-Eligible Household Community Members. Additional stakeholders will also be consulted and are included in the team stakeholder analysis tools. See Appendix, Table 3 and 4 for additional information.

APPENDIX A – COMMON PROPOSAL

Table 1. Logic model to show the resources, activities, short-term goals, long-term goals, and impact of the policy of having SNAP benefit at farmers' markets in Cumberland County, NC.

Resources/ inputs	Activities	Short Term Goals (Outcomes) 1-3 years	Long Term Goals (Outcomes) 3-5 years	Impact (7-10 years)
Farmers Markets Local Farmers Department of Social Services Local, State, and Federal Health Departments Community members of households that are SNAP-eligible. Cape Valley Medical Center	<p>Increase awareness around utilizing SNAP benefits at Farmers Markets and where they are located for the community, through surveys/online database, by developing and disseminating materials.</p> <p>Facilitate SNAP applications through the USDA at existing farmers markets.</p> <p>Evaluate SNAP usage at that one farmers market, using CQI.</p> <p>Research and analyze funding for SNAP benefits at Farmers Markets to give information to Farmers Markets Administration to review to help them choose which method would be best for their specific market.</p>	<p>Establish one farmers' market in Cumberland County that accepts SNAP within the first year of policy implementation.</p> <p>Increasing fresh fruits and vegetable consumption in SNAP eligible households by 20% in the first year of policy implementation.</p> <p>Increase produce sold at farmers markets by 50% in the two years of policy implementation.</p>	<p>Using CQI, scale up SNAP-eligible farmers markets by 200% by 5 years of policy implementation.</p> <p>Increase local farmers wages by 10% in the first three years of policy implementation due to increased produce sales.</p>	<p>Reduce food insecurity in SNAP-eligible households in Cumberland County, NC.</p> <p>Reduction in negative health outcomes associated with food insecurity.</p> <p>Increase profit at local farmers markets.</p> <p>Increase economic stability for local farmers and farmers markets through SNAP purchases.</p> <p>Increase number of SNAP-accepting farmers markets within Cumberland County.</p>

Figure 1. Food insecurity data in Cumberland County, North Carolina.

Figure 1 shows important information that is relevant to understanding food insecurity in Cumberland County. 16.9% of Cumberland County residents are food insecure. Of the 16.9%, 81% of food insecure residents are below the Federal Poverty Level of 200%. Combined, Cumberland County residence will need a total of \$27,992,000 to be food secure. Retrieved from <https://map.feedingamerica.org/county/2018/overall/north-carolina/county/cumberland>

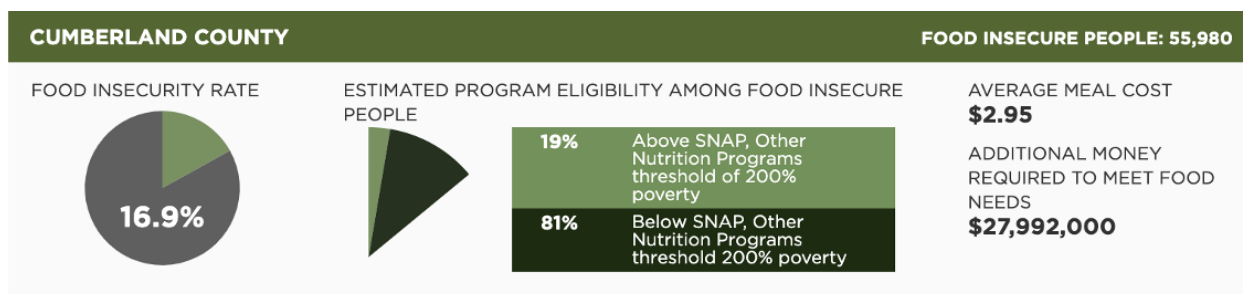


Table 2. Cumberland County, NC census data on median and per capita income and poverty percentage.

Retrieved from <https://www.census.gov/quickfacts/cumberlandcountynorthcarolina>

Income & Poverty	
Median household income (in 2018 dollars), 2014-2018	\$45,716
Per capita income in past 12 months (in 2018 dollars), 2014-2018	\$24,301
Persons in poverty, percent	17.0%

Table 3. Responsible, Accountable, Supporting, Consulted, and Informed (RASCI) Matrix was completed to identify key stakeholders to address food insecurity in Cumberland County, NC.

RASCI Levels		
Who is...	<u>Policy</u> Transformation	Rationale For Partner Participation
Responsible =owns the problem / project	Local farmers' market management Cumberland Co PHD	Manages the distribution and sales of farmers market produce and products to SNAP-eligible customers.
Accountable =ultimately answerable for the correct and thorough completion of the deliverable or task, and the one who delegates the work to those <i>responsible</i>	Cumberland County Board of Commissioners Cumberland County Public Health Department	Mandates the policy that all farmers markets' are required to accept EBT. Overall, they assign who leads the project and are responsible for making sure there is completion of the deliverable. Delegated by Cumberland County Board of Commissioners to take responsibility to make sure the deliverable is achieved.
Supportive =can provide resources or can play a supporting role in implementation	Community customers, farmers, and vendors at farmers' markets	Can contribute to productive distribution and purchasing of produce at local farmers' markets.
Consulted =has information and/or capability necessary to complete the work	Cumberland County Department of Social Services SNAP-eligible households and community members	Researches the steps for farmers' markets to receive EBT and acts as a liaison between the local farmers' market management and state and federal level to achieve the policy Provides insight into the customer side of the farmers' market experience, their needs, what will work well, etc.

<p>Informed=must be notified of results, process, and methods, but need not be consulted</p>	<p>SNAP-eligible households and community members</p>	<p>Community members will be engaged at various steps of the process, and will be continuously informed and incorporated into the decisions surrounding the policy.</p>
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APPENDIX B – GROUP DELIVERABLES

TEAM CHARTER – GROUP

Team Members' Names and Contact Info	Strengths/Challenges Members Bring to the Group
Kit Bannantine <u>XXX</u> XXX-XXX-XXXX	Enjoys editing, creative, timely, organized; schedule is often changing (currently nomadic), takes a little longer to process/disseminate information
Madi Smith <u>XXX</u> XXX-XXX-XXXX	Enjoys editing, detail-oriented. Inquisitive eye and asks questions. Progressive due dates/planning ahead is helpful.
Megan Telfer <u>XXX</u> XXX-XXX-XXXX	Good with citations and providing evidence in the form of statistics. Enjoys making papers more concise. Needs to be reminded of due dates.

Team Project Goals	
Members are fully committed to the common goal and mission.	
Members are mutually accountable to one another.	
Members respect one another and work collaboratively.	
Members all share in the workload.	
Project Team Member Ground Rules	Solutions to Issues
Work must be submitted on time.	If work is not submitted on time, we will determine the cause and correct for the next assignment. Additionally, confirmation of assignment submission will be sent out by the moderator.
Work must be complete.	If work is not satisfactory, we will evaluate quality of work prior to submission and all members will agree that work is ready for submission.

All members must attend agreed on meeting times or notify other members of conflicts. We plan to meet Thursdays after class at 7:30pm Eastern, with additional meetings added in as needed.	If we set up an agreed upon meeting and a member does not show up, we will engage with the member via contact info, communicating important information to all members following the meeting.
All members must consider other member ideas, opinions, and input and behave in a supportive and encouraging manner.	If a member exhibits inappropriate or disrespectful behaviors towards others, we will discuss the concern on an individual level to attempt to reach a resolution. Once we reach a resolution, we may choose to integrate the resolution into new group agreements.
Decisions will be made by consensus.	If a decision is contentious, we will discuss the pros and cons of the issue and attempt to understand each person's perspective. We will aim to reach a decision based on mutual agreement and an awareness of which group members have or have not made the majority of team decisions thus far.
All members must contribute equally.	If a member fails to participate or contact us for several days, we will attempt to reach the student in various ways and discuss the barriers this person is facing in our breakout during synchronous class.
We will attempt to resolve all problems within our team by contacting members and discussing issues.	We will address the issue with the individual one-on-one. If we still find ourselves unable to resolve the issue, we will ask another member to moderate a second discussion about the issue in order to bring in a different, unbiased perspective.

Assignment	(Tentative) Due Date - 11:55pm
Group Deliverable: Team Charter	9/27
Individual Deliverable: Problem Statement	10/18
Group Deliverable: Draft Aim for Group Proposal	10/25
Individual Deliverable: System, Stakeholder, and Transformation Options	11/1
Individual Deliverable: Accountability Plan	11/15
Individual Deliverable: Persuasive Pitch Presentation	11/29
Group Deliverable: Final Capstone Proposal	12/6

PROBLEM STATEMENT – GROUP

Social Determinants of Health

Research shows that up to 80 percent of a person's overall health is driven by other social and environmental factors and the behavior influenced by them. (Healthy Opportunities, n.d.). These factors are called social determinants of health (SDOH). SDOH are the "conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks" (Office of Disease Prevention and Health Promotion (ODPHP), n.d.). In thinking about health in Cumberland County, North Carolina (NC), the SDOH of economic stability will be the focus. Economic stability has a deep impact on a person's health, safety, and well-being, but also on healthcare utilization and costs (Healthy Opportunities, n.d.). Food insecurity is an indicator of economic instability. Food insecure households need to make trade-offs between important basic needs, such as housing or medical bills, and purchasing nutritionally adequate foods (Feeding America, n.d.). It is essential to examine the context of Cumberland County to fully understand the problem, needs, and assets of this area to determine how to best approach the issue.

Food Insecurity

Food insecurity is "the disruption of food intake or eating patterns because of lack of money or other resources ("Food Insecurity," n.d.)." The impacts of food insecurity are significant and can vary. Further, economic instability and food insecurity have often been used as indicators of poor health outcomes. Though not always related, hunger can be a short-term outcome ("Food Insecurity," n.d.). Various serious health complications and disparities can also be health outcomes of food insecurity. These issues can include malnutrition, obesity, diabetes, hypertension, hyperlipidemia, and poor sleep outcomes (Gundersen & Ziliak, 2015). Food insecurity leads, not only, to these negative physical health outcomes, but can also have an impact on a child's health and developmental growth. It can lead to mental health problems and

emotional distress for adults as they must make impossible decisions, such as choosing between paying for food or for critical healthcare (“How Do You Measure Hunger?,” n.d.).

Cumberland County

Cumberland County is located in the center of NC in a region known as the “Sandhills” (Cumberland County Department of Public Health, 2019). Fayetteville is its largest city and the county is best known for being the location of Fort Bragg, one of the US Army’s largest installations in the world (Cumberland County Department of Public Health, 2019). In 2017, the population of the county was just over 332,000 people (NCIOM, n.d.). The proportion of minority residents in Cumberland County is larger than compared to the state as a whole (see Appendix). The median household income in Cumberland County is \$44,810 (Health ENC, 2019). Blacks have less per capita income and median household income than Whites and more people, families, and children living below the poverty level. The median age of residents in Cumberland County is 31.5 (younger than that of the state at 38.9) and has a higher attainment of high school graduation (Cumberland County Department of Public Health, 2019).

There are health disparities present in Cumberland County that are linked to food insecurity. Two leading causes of mortality in the county, heart diseases and diabetes, are both negative health outcomes of food insecurity and have higher rates in this county than they do across all of NC (Cumberland County Department of Public Health, 2019). More than half the Cumberland County population is considered obese, another condition related to food insecurity issues (Cumberland County Department of Public Health, 2019).

Scope of the Problem

It is critical to measure the scope of food insecurity. Within Cumberland County NC, it is estimated that 55,980 people overall (18,820 of which are children) are food insecure, at a rate of approximately 16.9% overall (22.8% in children) compared to those who are food secure (*Figure 1*, Feeding America, 2018). Key indicators such as food index scores help to measure food insecurity. The score is determined by weighing the percentage of people with limited

access to healthy foods and the percentage of people with food insecurity. The Food Environment Index Score, on a scale of 0 to 10, was worse in Cumberland County than in the whole state (6 vs. 7.5) (Cumberland County Department of Public Health, 2019).

Economic stability can be determined by looking at median household income, unemployment rates, health insurance status, etc. These economic instability indicators are all higher in the county as compared to the state (see *Table 2*, U.S. Census Bureau, 2016-2019). County residents also face high levels of poverty as compared to the state and nation, with an approximate 17% of persons in Cumberland County living in poverty (*Table 3*, U.S. Census Bureau, 2019).

The Supplemental Nutrition Assistance Program (SNAP) is a federal assistance program that provides low-income families with electronic benefit transfers (EBTs) that can be used to purchase food, in an effort to increase food security and reduce hunger by increasing access to nutritious food (CHNA, 2019). The percent of households with children that participate in SNAP in Cumberland County is 54.9%, higher than the state value at 52.6% (see *Figure 3*, American Community Survey, 2012-2016), which illustrates the greater demand in the county for access to federal assistance programs in combatting food insecurity. This highlights the importance of addressing and reducing household food insecurity and hunger in households living in poverty, as defined by living below the federal poverty level, in Cumberland County, North Carolina.

Rationale

By reducing household food insecurity in Cumberland County, the SDOH of economic stability will be addressed and there will be marked improvements in the community's health. Food insecurity is linked to poverty and racial disparities, both poverty and food insecurity are issues in Cumberland County, and the demographics of the county include a higher racial minority population. For these reasons, a focus on reducing food insecurity in this county is imperative.

RICH PICTURE – GROUP



ROOT DEFINITION – GROUP

The system of food insecurity in Cumberland County, North Carolina is a system that does not provide adequate food options to the community. It creates limited access to affordable fresh fruits and vegetables and impacts households living in poverty that aren't maximizing the use of SNAP benefits, amplifying poor health outcomes.

PROGRAM AND POLICY OPTION – GROUP

Introduction

The overarching aim is to better the health of the community by improving the social determinant of health economic instability by addressing food insecurity in Cumberland County, North Carolina. The proposed program and policy focus on partnering with local farmers and farmers markets to make produce accessible and affordable for SNAP-eligible (Supplemental Nutrition Assistance Program) households. The options chosen were implemented in other communities and have shown evidence of improving access to fresh fruits and vegetables, therefore improving the health of the community.

Program: Local Produce Boxes for Families

The proposed program is to partner with local farmers to provide produce boxes to SNAP-eligible households at a low-cost (see Appendix, Figure 1). The program is based on the successful design and implementation of *Got Access?* (Wisconsin Department of Health Services (WDHS), 2012). The program is recommended to fill the identified gap that exists of SNAP-eligible households having access to fresh vegetables and fruits. One in five Cumberland County households lack access to a reliable food supply (North Carolina Division of Public Health, 2018). *Got Access?* offers a strong foundation by providing tools, resources, and evaluations for key stakeholders. Local farmers and Cumberland County Schools (CCS) will be invited as key stakeholders to help plan and implement the program.

With the tools provided by *Got Access?*, the key stakeholders evaluate the community through multiple assessment techniques. The assessments use tools involving finding themes, surveys, and Geographic Information Systems (GIS). The layout of how to start, what to consider, secondary strategies, possible partners, funding, and complementary practices are provided (WDHS, 2012). The steps will be adapted to Cumberland County based on the results of these community assessments.

Got Access? provides an evidenced-based approach and resources for every step of

implementation, including what has worked in other communities. While evaluation results of the program are limited, the Wisconsin Department of Public Health promotes the program as “local coalitions, community organizations, and mobilized citizens can use the components of this guide to increase the availability of and access to fruits and vegetables” (Wisconsin Department of Health Services, 2020).

If implemented incorrectly, produce boxes can be a disadvantage for communities. For example, the USDA Farmers to Families Food Boxes created barriers for smaller farms (National Sustainable Agriculture Coalition, 2020). The programs mandated audits were timely and expensive. Smaller, local farms were unable to complete the requirement and therefore could not participate in the program. (National Sustainable Agriculture Coalition, 2020). Before accepting outside funding, it should be made clear the goal of the program is to use local farms. Additionally, using farms from one area can be problematic should a catastrophe happen to the crops in that area (WDHS, 2012). It would benefit the program to have multiple local farm sources, and a partnership with a non-local farm that can bring in variety in crops and offer an emergency plan, should local crops not be available.

Policy: SNAP Use in Farmers’ Markets

The proposed policy is to mandate farmers’ markets in Cumberland County to accept SNAP benefits to further expand equitable access to healthy foods. A USDA report shows that “a disproportionate amount of food stamp money is going toward unhealthful foods,” like soft drinks and candy, and that SNAP beneficiaries are spending only 40 cents per dollar on basic food items, while the other 60 cents is spent on processed and junk food items (O'Connor, 2017). In a sense, this federal government program is subsidizing unhealthy eating and perpetuating the public health issue of food insecurity. SNAP purchasing power at farmers markets can expand access to local produce that is available to SNAP-eligible households in the county. This will also allow for broadening market locations that accept SNAP benefits across the county.

The Farmers' Market Coalition (FMC) is a "nonprofit dedicated to strengthening farmers markets across the United States so that they can serve as community assets while providing real income opportunities for farmers" ("Supplemental Nutrition Assistance Program (SNAP)," 2019). A top policy priority for FMC is assisting local associations in advocating for legislation supporting SNAP at farmers' markets ("Supplemental Nutrition Assistance Program (SNAP)," 2019). Like other farmers markets in the state allowing SNAP use, SNAP approval at farmers' markets would allocate funding earmarked for establishing and operating a farmers' market SNAP program. Not only would this allow for SNAP benefits to be accepted at farmers' markets so people have easier access to fresh fruits and vegetables, but it would stimulate the local economy through boosting farmers' market sales and could incentivize local farmers to also be involved in implementation of the proposed produce boxes program.

Possible barriers and disadvantages to this policy to consider would be that local community members awareness and utilization of local farmers' markets. SNAP beneficiaries may prefer the alternative options that are allowed through SNAP due to the barriers of timing, transportation, and overall cost. It would be important to incorporate the community and partners in this policy decision to increase utilization through community buy-in and understand the behavioral component of food selection amongst community members.

Quality Improvement

The program will be continuously evaluated through tools utilized by the *Got Access?* Program, through surveys of community members, farmers, and vendors, the "CHANGE Tool", and monitoring with the use of run charts to better understand utilization and to assure quantitative and qualitative adequacy of the food boxes and SNAP policy (CHANGE Tool, 2018). The success of the program and policy will also be measured in partnership with the Cape Fear Valley Medical Center through Community Health Needs Assessments (CHNA) and State of the County Health (SOTCH) reports, to identify impact on health outcomes impacted by food insecurity like heart disease and obesity.

RASCI ANALYSIS – GROUP

(Responsible, Accountable, Supportive, Consulted, Informed)

RASCI Levels		
Who is...	<u>Policy</u> Transformation	Rationale For Partner Participation
Responsible =owns the problem / project	Local farmers' market management Cumberland Co PHD	Manages the distribution and sales of farmers market produce and products to SNAP-eligible customers.
Accountable =ultimately answerable for the correct and thorough completion of the deliverable or task, and the one who delegates the work to those <i>responsible</i>	Cumberland County Board of Commissioners Cumberland County Public Health Department	Mandates the policy that all farmers markets' are required to accept EBT. Overall, they assign who leads the project and are responsible for making sure there is completion of the deliverable. Delegated by Cumberland County Board of Commissioners to take responsibility to make sure the deliverable is achieved.

Supportive =can provide resources or can play a supporting role in implementation	Community customers, farmers, and vendors at farmers' markets	Can contribute to productive distribution and purchasing of produce at local farmers' markets.
Consulted =has information and/or capability necessary to complete the work	Cumberland County Department of Social Services SNAP-eligible households and community members	Researches the steps for farmers' markets to receive EBT and acts as a liaison between the local farmers' market management and state and federal level to achieve the policy Provides insight into the customer side of the farmers' market experience, their needs, what will work well, etc.
Informed =must be notified of results, process, and methods, but need not be consulted	SNAP-eligible households and community members	Community members will be engaged at various steps of the process, and will be continuously informed and incorporated into the decisions surrounding the policy.

LOGIC MODEL – GROUP

Resources/ inputs	Activities	Short Term Goals (Outcomes) 1-3 years	Long Term Goals (Outcomes) 3-5 years	Impact (7-10 years)
<p>Farmers Markets</p> <p>Local Farmers</p> <p>Department of Social Services</p> <p>Local, State, and Federal Health Departments</p> <p>Community members of households that are SNAP-eligible.</p> <p>Cape Valley Medical Center</p>	<p>Increase awareness around utilizing SNAP benefits at Farmers Markets and where they are located for the community, through surveys/online database, by developing and disseminating materials.</p> <p>Facilitate SNAP applications through the USDA at existing farmers markets.</p> <p>Evaluate SNAP usage at that one farmers market, using CQI.</p> <p>Research and analyze funding for SNAP benefits at Farmers Markets to give information to Farmers Markets Administration to review to help them choose which method would be best for their specific market.</p>	<p>Establish one farmers' market in Cumberland County that accepts SNAP within the first year of policy implementation.</p> <p>Increasing fresh fruits and vegetable consumption in SNAP eligible households by 20% in the first year of policy implementation.</p> <p>Increase produce sold at farmers markets by 50% in the two years of policy implementation.</p>	<p>Using CQI, scale up SNAP-eligible farmers markets by 200% by 5 years of policy implementation.</p> <p>Increase local farmers wages by 10% in the first three years of policy implementation due to increased produce sales.</p>	<p>Reduce food insecurity in SNAP-eligible households in Cumberland County, NC.</p> <p>Reduction in negative health outcomes associated with food insecurity.</p> <p>Increase profit at local farmers markets.</p> <p>Increase economic stability for local farmers and farmers markets through SNAP purchases.</p> <p>Increase number of SNAP-accepting farmers markets within Cumberland County.</p>

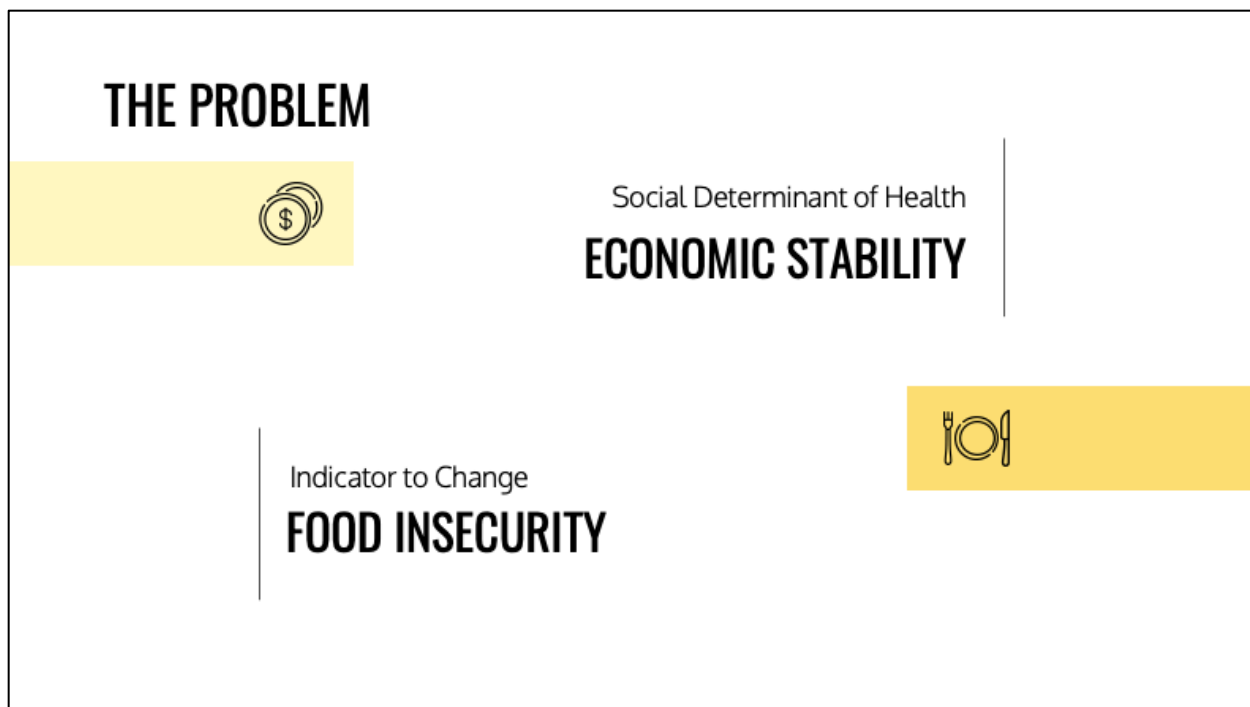
ACCOUNTABLE CARE COMMUNITY OVERVIEW PRESENTATION – GROUP

Slide Presentation [Excerpt] and Corresponding Script



Madeleine A. Smith:

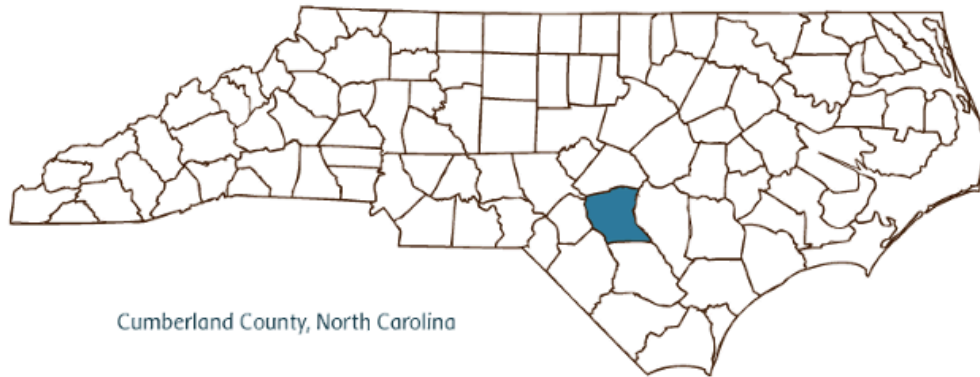
Good evening! We are Team Foodonomics. I'm Madi Smith with Kit Bannantine and Megan Telfer. Thank you all for joining us tonight as we discuss our proposal to create an accountable care community in Cumberland County, North Carolina. This ACC will reduce food insecurity through the expansion of access to healthy foods for SNAP-eligible households. We're grateful for your consideration.



Madeleine A. Smith:

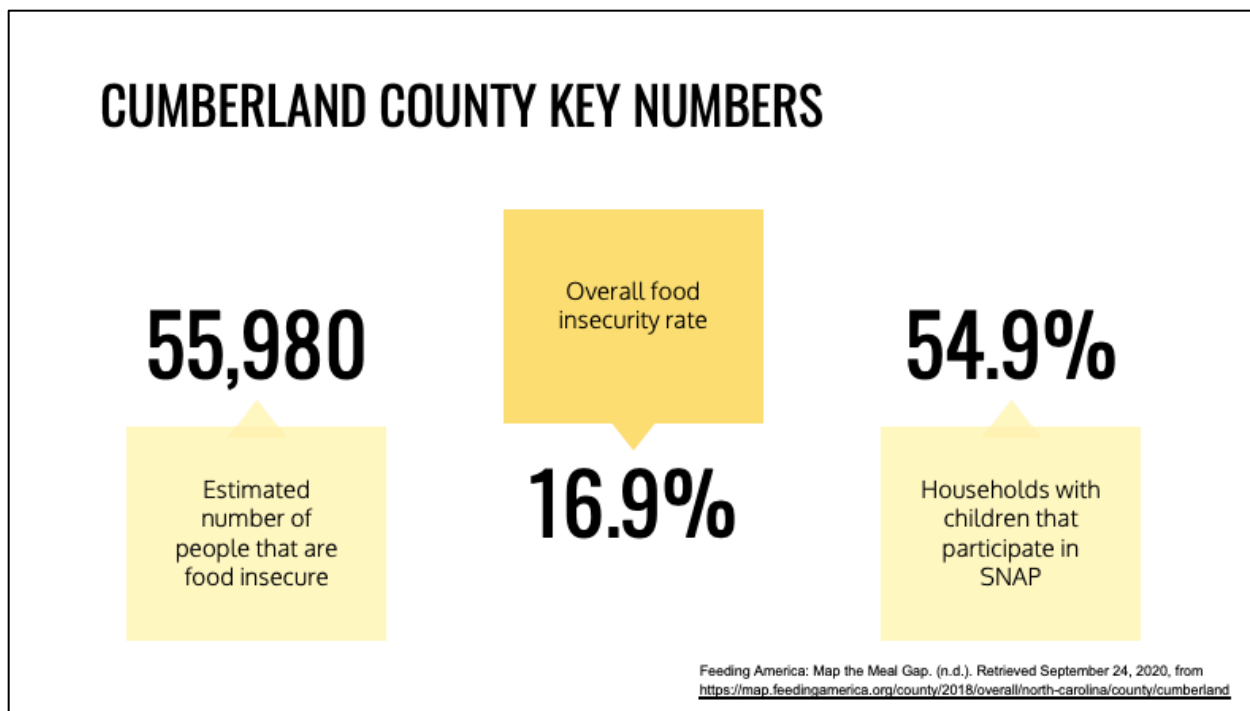
Research shows that up to 80 percent of a person's overall health is driven by other social and environmental factors and the behavior influenced by them. These social factors are called social determinants of health. In thinking about health in Cumberland County, North Carolina, the social determinant of economic stability will be the focus. Economic stability has a deep impact on a person's health, safety, and well-being, but also on healthcare utilization and costs. Food insecurity is an indicator of economic stability and what we will be seeking to change through our transformation. Food insecurity is the state of being without reliable access to a sufficient quantity of affordable, nutritious food.

CUMBERLAND COUNTY



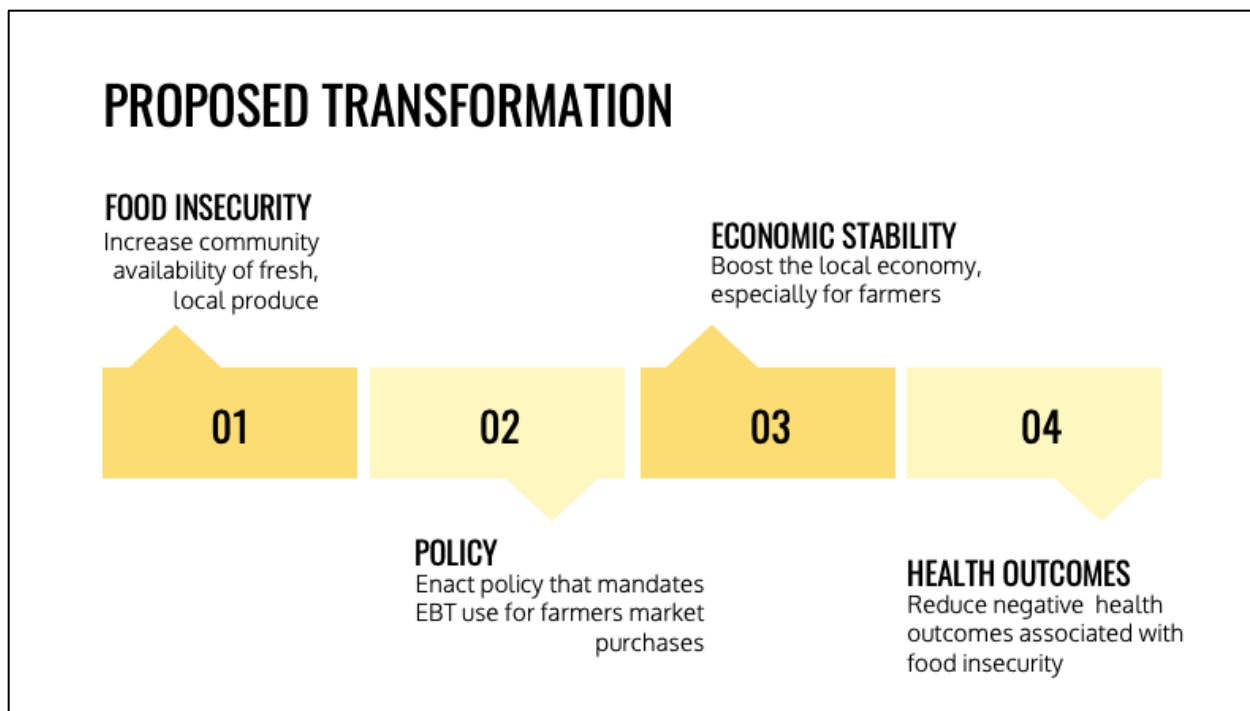
Madeleine A. Smith:

Cumberland County is located in the center of North Carolina with Fayetteville as its largest city. There are health disparities present in Cumberland County that are linked to food insecurity. Two leading causes of mortality in the county, heart diseases and diabetes, are both negative health outcomes of food insecurity and have higher rates in this county than they do across all of North Carolina. More than half the Cumberland County population is considered obese, another condition related to food insecurity issues.



Madeleine A. Smith:

Within Cumberland County, it is estimated that 55,980 people are food insecure, at a rate of approximately 16.9% compared to those who are food secure. County residents also face higher levels of poverty compared to the state and nation, with an approximate 17% of people in Cumberland County living in poverty. The percent of households with children that participate in SNAP, formerly known as ‘food stamps’, is 54.9%. This illustrates the importance of addressing and reducing food insecurity and hunger in households living in poverty.



Kathryn L. Bannantine:

Our ACC plans to address food insecurity by expanding equitable access to healthy food and taking advantage of SNAP in Cumberland County. We will enact a policy mandating farmers' markets in the community accept Electronic Benefit Transfer (or EBT) payment and maintain the necessary equipment to establish and operate a farmers' market SNAP program. This policy is needed as there are currently no farmers' markets in the county accepting EBT payment.

A policy mandating SNAP implementation in farmers' markets would encourage the purchase of fresh produce by those who may be food insecure and increase the number of locations in the county that accept SNAP benefits, thus boosting the economy, especially for local farmers. In increasing access to fresh fruits and vegetables to those who are SNAP-eligible, we aim to increase number of consumed fruits and vegetables to ultimately reduce negative health outcomes associated with food insecurity, such as heart disease and obesity.



Retrieved from https://assets-global.website-files.com/5811106944272e4a11871c01/5953c239c2aac43e34d4f1f_Step-41.bmp

Kathryn L. Bannantine:

This graphic briefly shows what our policy could look like in action at a Cumberland County Farmers' Market. On the top left would be the Fayetteville Farmers' Market Association management, followed by an EBT card (similar to a debit card). Below that is the equipment used to process EBT payments, and below that to the left is a SNAP-enrolled community member.

AIMS AND GOALS



AIM

Reduce food insecurity in Cumberland County

START



SHORT-TERM GOAL

Establish one farmers' market that accepts EBT as payment

1-3 YEARS



LONG-TERM GOAL

Increase the number of farmers' markets that accept EBT by 200%

3-5 YEARS

Megan M. Telfer:

This proposal aims to improve economic stability through reducing food insecurity by implementing a policy that establishes EBT use for SNAP beneficiaries at farmers' markets in Cumberland County. The primary short-term goal is to establish one farmers' market that accepts EBT as payment and the primary long-term goal is to increase the number of farmers' markets who accept EBT. Reaching these goals will help reduce food insecurity in Cumberland County.

KEY PARTNERS

01

**CUMBERLAND
COUNTY DEPARTMENT
OF SOCIAL SERVICES**

02

**FAYETTEVILLE
FARMERS' MARKET
ASSOCIATION**

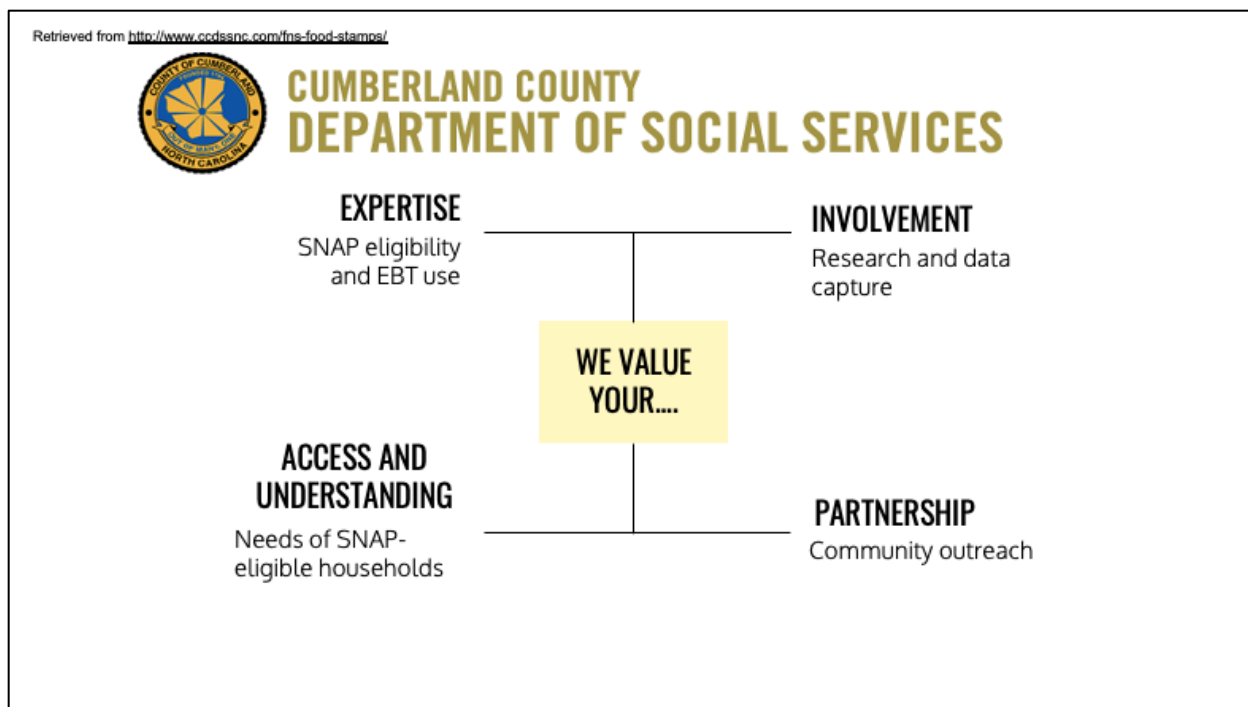
03

**REILLY ROAD
FARMERS' MARKET**

- STATE AND FEDERAL GOVERNMENT
 - USDA
- CUMBERLAND COUNTY
 - SNAP-ELIGIBLE COMMUNITY MEMBERS
 - ❖ DEPARTMENT OF PUBLIC HEALTH
 - BOARD OF COMMISSIONERS
 - LOCAL COMMUNITY ORGANIZATIONS

Kathryn L. Bannantine:

Now we would like to speak directly to three entities that we believe will be key partners of the ACC in working alongside the backbone agency, the Cumberland County Department of Public Health, and other stakeholders listed on the right in bringing about our transformation.



Kathryn L. Bannantine:

Cumberland County Department of Social Services, you are a valued partner in this transformation. We need your partnership for the policy to be successful. We would value your knowledge and understanding of the Food and Nutrition Services Program, as well as the monthly allotment of food assistance via EBT cards to individuals and households to help them to buy the food they need for a nutritious diet. We would also value your access and experience working directly with SNAP-enrolled community members. Your partnership would involve assisting the project team with researching the steps for farmers' markets to receive EBT approval, as well as acting as a liaison between the Fayetteville Farmers' Market Association management and state and federal government entities to achieve the policy. Together we can provide education and outreach to the community, especially for SNAP eligible households, informing them where they can use SNAP benefits, like at local farmers markets. With your partnership, together we can increase utilization of federal assistance program benefits, ultimately improving access to food needed for a more nutritious diet, to improve health outcomes of community members residing in Cumberland County, North Carolina.



Madeleine A. Smith:

We need you, the Fayetteville Farmers' Market Association, to ensure the success of this proposed policy. You are an important part of our ACC because of the role you play in making sure community members have access to fresh and nutritious produce. As the administrators for Fayetteville-area farmers' markets, your knowledge of how markets are run, relationship with vendors in the community, and ability to implement policy locally in markets will be invaluable.

Within our ACC, we see your role being twofold. Firstly, once policy is implemented and SNAP is an accepted form of payment at local farmers' markets, we will need your help to manage the distribution and sales of farmers' market produce and products to SNAP-eligible customers. This will not look much different from how farmers' markets are currently being run.

Secondly, your skill and resources will be crucial to maintain EBT equipment and pay necessary fees. In North Carolina, FIS financial systems provide the EBT equipment and set-up at no cost and individual markets must only pay additional monthly and transactional fees.

With your help, we can further expand equitable access to fresh fruits and vegetables for SNAP-eligible community members. Not only would your participation allow for SNAP benefits

to be accepted at farmers' markets so people have easier access to healthy foods, but it would also stimulate the local economy through boosting farmers' market sales.

REILLY ROAD FARMERS' MARKET



**DIRECTLY
IMPACTED**

**LEARN NEW
SYSTEM**

**CUSTOMER
CONTACT**

**HEALTHIER
COMMUNITY**



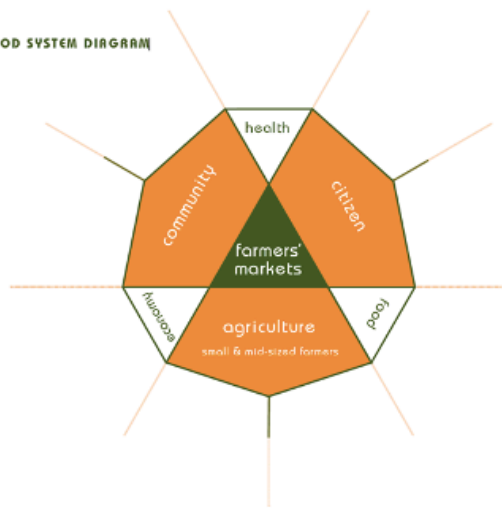
Retrieved from <https://www.facebook.com/ReillyRoadFarmersMarket>

Megan M. Telfer:

The first proposed ACC farmers' market vendor partner is the Reilly Road Farmer's Market. We will look to add more local vendors in the future. You are a valuable partner because you are the producers of the fruits and vegetables that will be sold. This policy will directly impact your business. An important role of the vendor will be to decide on and learn a new system for EBT payment. It will be important to understand the process of EBT at the Farmers Market, as you will be in direct contact with the customer. As a partner, you can contribute to productive distribution and purchasing of produce at local farmers' markets. Together, we can accomplish creating a Healthier community through increased fruit and vegetable consumption. Increased fruit and vegetable consumption is shown to help people manage chronic diseases, such as heart disease and diabetes. We can also increase autonomy of community by partnering with local farms to create more sustainable, locally grown food sources.

CONCLUSION

THE FOOD SYSTEM DIAGRAM



Wentzel M. and Himmans J. adapted from Leveraging the Farmers Market Systems to Build Healthy Sustainable Communities. Himmans J., Wentzel M., Badler M., Harris D., Diamond R., and Miller S. Under review.

Megan M. Telfer:

SNAP use at Farmers' Markets is already creating positive impacts. In 2017, \$24.4 million in SNAP benefits were redeemed at farmers' markets across the US, a more than 35% increase since 2012. In 2019, in North Carolina alone there were 95 SNAP-authorized farmers' markets. This rise in SNAP use at farmers' markets shows the impact of similar policies that have been implemented nationwide. With increased SNAP use at farmers' markets comes a boost to the economy as more people are purchasing local produce. This boost in local produce sales indicates that more people are accessing healthier foods and using the SNAP program for its intended purpose of assisting those who are food insecure to purchase nutritious food. Implementing a policy to be able to have SNAP benefits used at Cumberland County Farmers' Markets will directly benefit the community by addressing food insecurity. This policy gives farmers' markets a direct access point to provide local fruits and vegetables to those who are SNAP-eligible and experiencing economic instability, therefore improving health outcomes, including reducing heart diseases, diabetes, and obesity. We hope you will consider partnering

with our ACC as we seek to improve economic stability by reducing food insecurity through the use of SNAP benefits at farmers' markets in Cumberland County.

APPENDIX B-1 – GROUP

Figure 1. Definition of the Supplemental Nutrition Assistance Program (SNAP).

The Supplemental Nutrition Assistance Program (SNAP)

- The Supplemental Nutrition Assistance Program, or “SNAP,” is a federal program that “provides timely, targeted, and temporary benefits to people in need so that Americans have access to nutritious food” (“Understanding SNAP, the Supplemental Nutrition Assistance Program,” n.d.). These SNAP benefits are delivered monthly through electronic debit (EBT) cards so households can purchase nutritious foods at authorized retailers (“Understanding SNAP, the Supplemental Nutrition Assistance Program,” n.d.). In 2019, SNAP reached 12% of the both the NC and US population and it’s estimated that \$1 in SNAP benefits generates \$1.70 in economic activity (Nchako & Cai, 2020), proving that this program is both utilized and effective.

Figure 2. The CHANGE Tool.

Retrieved from <https://www.cdc.gov/nccdphp/dnpao/state-local-programs/change-tool/community-change-process.html>



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APPENDIX C – BANNANTINE DELIVERABLES

PROBLEM STATEMENT - BANNANTINE

Social Determinants of Health

While access to high-quality medical services is crucial to health, research shows that up to 80 percent of a person's overall health is driven by other social and environmental factors and the behavior influenced by them— known as “social determinants of health” (Healthy Opportunities, n.d.). Social determinants of health (SDOH) are the circumstances in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life (World Health Organization, 2020). Conditions such as economic instability and food insecurity not only have a deep impact on a person's health, safety, and well-being, but also on healthcare utilization and costs (Healthy Opportunities, n.d.).

Household Economic Instability and Food Insecurity

Food insecurity refers to the measure of lack of access, at times, to enough food for an active, healthy life for all household members and limited or uncertain availability of nutritionally adequate foods (USDA, n.d.). Contributing to food insecurity, household economic instability is the repeated changes in employment, income, or financial well-being over time, particularly changes that are not intentional, predictable, or part of upward mobility (Hill et al., 2017). Food insecurity is often caused by economic instability and may reflect a household's need to make trade-offs between important basic needs, such as housing or medical bills, and purchasing nutritionally adequate foods (Feeding America, n.d.). Further, those living in poverty often face food insecurity periodically, if not regularly.

While food insecurity is often caused by economic instability, other contributing factors also include access to affordable and nutritious foods, which in and of itself has multiple contributing factors to include transportation options, geographic location, local food retailers, and local food production. Children who are living in a household that is food insecure face greater risk of overall poorer health, and behavioral, cognitive, and emotional problems

(Gundersen & Ziliak, 2015). Food insecurity in adults is associated with increased rates of mental health problems and diabetes (Gundersen & Ziliak, 2015). This highlights the importance of focusing on understanding ways to reduce household food insecurity and hunger in communities in the United States.

Food Insecurity in Cumberland County, North Carolina

North Carolina has the 8th highest rate of food insecurity in the United States, with more than one in five children living in food insecure households (Healthy Opportunities, n.d.). Adults in households in the State are also adversely impacted by food insecurity. Approximately 13.6 percent of residents in the state are living in poverty (U.S. Census Bureau, 2019). This highlights the importance of addressing and reducing household food insecurity and hunger in North Carolina.

Cumberland County is in the center part of the state of North Carolina and is mostly rural, with an urban area focused around the city of Fayetteville. Cumberland County is home to a racially and ethnic diverse population (see Appendix C1). It is also home to a large military base and veteran population. The median age of residents in Cumberland County is 31.5 (younger than that of the state at 38.9) and has a higher attainment of high school graduation (SOTCH, 2019).

There are health disparities present in Cumberland County that are linked to food insecurity. Two leading causes of mortality in the county, heart diseases and diabetes, are both negative health outcomes of food insecurity and have higher rates in this county than they do across all of North Carolina (CHNA, 2019). More than half the Cumberland County population is considered obese, another condition related to food insecurity issues (Cumberland County Department of Public Health, 2019).

Considering the adverse impacts of food insecurity, it is critical to measure the scope of food insecurity. Key indicators such as food index scores help to measure food insecurity. Economic means can be measured through median household income, unemployment rates,

those who have no health insurance, all of which are higher in the county as compared to the state (U.S. Census Bureau, 2016-2019). County residents also face high levels of poverty as compared to the state and nation, with an approximate 17% of persons in Cumberland County living in poverty (see Appendix C1). Within Cumberland County NC, it is estimated that 55,980 people overall (18,820 of which are children) are food insecure, at a rate of approximately 16.9% overall (22.8% in children) compared to those who are food secure. SNAP is a federal assistance program that provides low-income families with electronic benefit transfers (EBTs) that can be used to purchase food, and to increase food security and reduce hunger by increasing access to nutritious food (CHNA, 2019). The percent of households with children that participate in SNAP in Cumberland County is 54.9%, higher than the state value at 52.6% (American Community Survey, 2012-2016), which illustrates the greater demand in the county for access to federal assistance programs in combatting food insecurity.

Priority Population

This highlights the importance of addressing and reducing household food insecurity and hunger in households living in poverty that qualify for SNAP, as defined by living below the federal poverty level, in Cumberland County, North Carolina. The priority population includes both adults and children that reside in SNAP-eligible households.

Rationale

Food insecurity remains a complex problem, particularly plaguing areas facing economic hardship. Considering the consequential relationship between household economic instability and food insecurity, it would be important to consider vulnerable populations, such as children, who would qualify for federal programs, such as school lunch programs and SNAP, and state programs to combat hunger and increase access to nutritious foods. Food insecurity is associated with increased risk of several negative and preventable health outcomes in children (see Appendix A, Table 2). Current data related to food insecurity are currently expected to be even higher due to the economic implications and high levels of unemployment that have

resulted in the wake of COVID-19. This further justifies the immediate priority of reducing household food insecurity in SNAP-eligible households living in poverty in Cumberland County, NC.

PROGRAM AND POLICY OPTION – BANNANTINE

Aim

We aim to reduce food insecurity in Cumberland County, North Carolina through increasing access to healthy, nutritious, and affordable foods. Food insecurity disproportionately impacts households living below or near the federal poverty level, and is known to cause negative health outcomes. We will achieve this by creating programs and policies that incorporate a community garden into the curriculum and school lunches in public schools in Cumberland County. We aim to have the garden and education developed by the end of the 2021-2022 academic school year, to be incorporated into the 2022-2023 academic year. Our goals include:

- Increase the variety and amount of locally grown vegetables in school lunches
- Increase the hours of mandated nutrition education in school curriculum to increase knowledge in children of available local produce. This education would be designed from curriculums like “Purple Asparagus” that aims to create interactive education about the positive experiences’ food can bring.
- Increase students’ knowledge of vegetables that can grow in their community
- Increase the number of fruits and vegetables consumed by students during school meals

Policy and Program Options

Schools play an important role in helping students establish healthy eating behaviors, by providing nutritious and appealing foods and beverages, consistent and accurate messages about good nutrition, and ways to learn about and practice healthy eating (CDC, 2019.). Schools also play an important role in developing a child’s foundation of knowledge and behaviors around nutritious foods, and how to select and prepare foods. Cumberland County public schools provide breakfast and lunch to students. The proposed program and policies are

focused on implementing and utilizing a local community or school garden to both provide nutritious meals to school children, and to provide hands-on nutrition education to students.

The Child Nutrition Services (CNS) Program is a non-profit organization operating across Cumberland County Schools. In conjunction with providing healthy, nutritious meals at a reasonable cost (see Appendix C1), CNS provides nutrition education for students as they seek to introduce them to healthier choices during meal service for a better way of life (Cumberland County Schools, n.d.). CNS is a federal reimbursement program that provides reimbursement for every free or reduced-cost meal that is served to children at their school, and any profit is returned into the program towards program costs. The program's budget is \$26 million. If this program allotted some of its budget towards building and sustaining plots at local community gardens to help with local food production, the program's cost-savings could increase as the amount of locally produced crops could provide for more nutritious and low-cost meals to school children. The cost of buying a plot at the local community garden is between \$20 to \$40 depending on the garden and size of the plot. Schools could build their own community gardens, which on average cost between \$3,750 to \$7,500 to build (How to Start a Community Garden, n.d.)

The initial funds necessary to start the community gardens could be raised through local community organizing events, local community organizations, and other funders. In addition to the advantage of receiving greater reimbursement from the CNS program, if the school rents out part of the plots that are not used by the school, they could produce even more return on investment (ROI). One study reviewing the ROI of school community gardens estimates it takes approximately three years of operation to reach a positive ROI (not including the federal reimbursement amounts) (The Higher ED Blog: The return on investment of community gardens, 2017). Possible barriers to this program might include lack of willingness of the school and government to allot budget and resources to the garden, as well as finding space within the curriculum to incorporate nutrition education, educators, and time in the garden.

This importance of a school's impact on a child's health also highlights an opportunity to create state-level policies which require gardening and food preparation programs to be integrated into school curriculum. The school-based community garden or local community garden partnership could allow a space for students to spend time outdoors, learning hands-on nutrition education of local food production and options. By promoting learning in the garden, educators can also foster healthy eating practices and the regular physical activity of being outside and gardening, both of which have the potential to affect students' health and well-being during childhood and later stages in life (Pérez-Rodrigo & Aranceta, 2003).

The above-mentioned CNS program partnered with a community garden could also be combined with a backpack program that sends children home with certain vegetables or fruits and recipes to complete food preparation homework, with family, outside of the classroom. Possible barriers might include the state's apprehension to mandate certain education from schools rather than allowing the schools to decide what education they would like to prioritize. It would be critical to include State representatives in the planning phase to build trust and establish them as a valued partner in incorporating nutrition into school curricula.

Implementation and Sustainability

The development of clear strategies, policies, and programs to try to help reduce food insecurity across communities and schools in Cumberland County requires partnership. Although certain programs and policies might be recommended through research, it is ultimately up to the community and key stakeholders to decide what they need. It will be important to incorporate the community, schools, and all key stakeholders into every step of the policy and program development, to best determine how that policy or program might be shaped to address the needs of their community most effectively and sustainably. This would include during the planning, implementation, and execution phases to obtain buy-in and to strengthen and sustain the change. A Plan-Do-Study-Act (PDSA) model will be utilized for quality

assurance, as well as through regular nutrition assessments at schools and surveys from school teachers and administrators to measure program and policy success.

The right to food, and food security, is beyond a SDOH. To assess health equity, the program will also be reviewed and analyzed alongside quality metrics to review that all students are receiving the benefits of the community garden and produce equitably. This includes assessing the learning needs that vary from student to student and looking into what resources schools have and leveraging those resources to meet the learning needs of a variety of learning styles.

Other policies we considered included increasing access to local produce in the community through the establishment of SNAP benefit use at markets. That policy was enticing due to the fact that it addressed food insecurity at the household level, rather than focusing at the individual level as in this policy focused on children.

STAKEHOLDER ANALYSIS – BANNANTINE

Introduction

Food security is often determined by a variety of factors. Contributing factors include employment, financial status, local food production, housing, transportation, health behaviors, and social support. Considering the underlying economic factors that contribute to food insecurity, identifying policies and programs that focus on root causes is critical. Policies and programs to help people pay for and access food can reduce poverty and improve health and well-being, and therefore should be investigated (Healthy People 2030, 2020.).

Food Insecurity Subsystem

The subsystem of food insecurity in Cumberland County, North Carolina is a system that does not provide adequate food options to the community. It creates limited access to affordable fresh fruits and vegetables and impacts households living in poverty that aren't maximizing the use of SNAP benefits, amplifying poor health outcomes.

The Cumberland County Community Coalition selected five health priorities and needs, one of which was focused on economic stability (including employment, housing, food security, and living below poverty) (Cumberland County CHNA, 2019). The economic factors were included as contributing to food insecurity. Community assets in Cumberland County that were identified to contribute to potential policy and program options included local community gardens, farmers markets, and farms. Federal government food assistance programs and policies can also help in supporting households facing food insecurity, to reduce hunger. All these factors and more are included in a rich picture of the food insecurity subsystem, depicting the complexity of the system as well as identified community assets and needs (see Appendix C1).

Stakeholder Analysis

A variety of tools were utilized in identifying and analyzing key stakeholders for the policy and program options selected. These tools included a Customer, Actor, Transformation,

Worldview, Owner, and Environment (CATWOE) analysis, a Give-Get grid, and Stakeholder Mapping tool. The CATWOE tool will be discussed in more detail.

Stakeholders included community members in households that qualify for SNAP, local farmers and vendors like Reilly Road Farmer Market, local government, the Cumberland County Department of Social Services, Public Health Departments (at multiple levels), Cumberland County Schools and administrators, local farmers market personnel, and community volunteers.

CATWOE Narrative (see Appendix C1)

Community assets and stakeholder mapping tools helped to identify stakeholders within the community, as well as those outside of the community. This combination would be critical in filling needs from which the community could benefit, as well as identifying stakeholders at multiple levels of the Social Ecologic Framework. Community members in households that qualify for SNAP would be at the center of all of models and assist in determining additional key stakeholders that may not have been identified in this stakeholder analysis.

The customers are those most impacted by the issue are households in Cumberland County that qualify for SNAP. The most involved with the subsystem were identified as being local farmers, local government, public health departments, the Department of Social Services, and Cumberland County schools (CCS). Transformations centered around increasing access to affordable fresh fruits and vegetables by maximizing the use of SNAP benefits. The big picture was described as equitable access to healthy food and a more economically stable community that is therefore more food secure. The owners would be the Cumberland County Department of Social Services and others who administer SNAP, as well as the public health department and local farmers. Constraints and limitations included number of farmers' markets in Cumberland County, seasonal availability of produce, and SNAP utilization and efficacy in helping those who are food insecure.

For the policy transformation, local farmers markets were identified in being responsible for managing the program and distribution of local produce to SNAP eligible customers.

Cumberland County Board of Commissioners and Cumberland County Public Health Department would be held accountable to mandate the policy that would allow the use of SNAP EBT debit cards to purchase produce and products at the farmers market, and assure deliverables are achieved. Community customers, farmers, and vendors were all identified as being supportive members of the community farmer's market. Cumberland County Department of Social Services would contribute to research and act as a liaison between the local farmers market and the state and federal government. The community members who qualify for SNAP would be incorporated at all levels of the transformation and will remain informed throughout the entire decision, development, evaluation, and sustainability process. Information will take place through regular meetings. Virtual meetings will be supported given the current pandemic, with an emphasis on ensuring virtual meetings are supported in SNAP eligible households.

Local government was determined to have high power and low interest in the program and policy. Local farmers were deemed to have high power and high interest in the program and policy options. Community members in households that qualify for SNAP, that do not prioritize healthy eating, were believed to have low power and low interest. Community members in households that qualify for SNAP, that are motivated to eat healthy, were thought to have low power and a high interest in the program and policy. The Cumberland County Department of Social Services and public health departments at multiple levels were also believed to have low power but high interest in the program and policy options.

ACCOUNTABILITY PLAN – BANNANTINE

INTRODUCTION

Developing a memorandum of understanding between the Cumberland County Department of Public Health and the Cumberland County Department of Social Services is an important opportunity for increased partnership and communication between public health officials and government social support services. The backbone agency or champion is the Cumberland County Department of Public Health. Alongside the local public health department and the Department of Social Services, farmers, farmers market personnel, vendors, community members, United States Department of Agriculture (USDA) administrators, the local hospital, and volunteers are also key stakeholders to consider for the selected policy choice.

MEMORANDUM OF UNDERSTANDING

between

The Cumberland County Department of Public Health

and

The Cumberland County Department of Social Services

1.0 PURPOSE

The purpose of this Memorandum of Understanding (MOU) is to establish an Accountable Care Community (ACC) with key stakeholders to improve economic stability. Specifically, the MOU will develop understanding and collaborative cooperation focused on reducing food insecurity in households that are eligible to receive SNAP benefits. Increasing access to local produce through federal benefits is associated with improved health outcomes related to the consumption of more nutritious diets. The outlined MOU was created to promote sustainable partnerships and mutually reinforcing activities by and between the Cumberland County Department of Public Health (hereinafter referred to as HEALTH DEPARTMENT) and the Cumberland County Department of Social Services (hereinafter referred to as DSS). The HEALTH DEPARTMENT and DSS shall remain separate entities, but for the purposes of

participating in this MOU the combined efforts and activities will be referred to as SNAP USE IN FARMERS' MARKETS.

2.0 PARTNERSHIP PRINCIPLES, EXPECTATIONS AND VISIONS

The work of the HEALTH DEPARTMENT and DSS shall adhere to the following principles:

2.1 Promote co-learning about food insecurity as it relates to limited access to adequate affordable produce.

2.2 Respect the interests and unique contributions of each stakeholder.

2.3 Establish open communication and dialogue, with a basis of willingness to receive feedback from stakeholders to work towards achieving shared vision and goals.

3.0 ACTIVITY AGREEMENTS

The activities implemented under this MOU shall adhere to the following principles:

3.1 Collaboration by responsible parties should be conducted with the intention of promoting health equity and recognize the impact of social determinants of health.

3.2 The DSS researches and provides the steps for farmers' markets to apply to receive Electronic Benefit Transfer (EBT) approval and acts as a liaison between the local farmers' market management and state and federal level to achieve the policy.

3.3 The HEALTH DEPARTMENT, delegated by Cumberland County Board of Commissioners, is to take responsibility to make sure EBT approval is achieved and necessary equipment and utilization is maintained.

4.0 SCOPE OF ACTIVITIES

4.1 Both entities will establish shared values and understanding through the creation of a team charter that establishes accountability for each party.

4.3 DSS will facilitate SNAP applications through the USDA at existing farmers markets.

4.3 The HEALTH DEPARTMENT will be accountable for research and analysis of the impact of EBT use in Farmers Markets towards reducing food insecurity in SNAP-eligible households.

4.4 This MOU will be reviewed annually by DSS and HEALTH DEPARTMENT to address any issues that are identified by key partners to this agreement.

4.5 Before activities are implemented, DSS and the HEALTH DEPARTMENT will show mutual understanding of shared goals by reviewing shared goals as a team and voting on shared vision as highlighted in a Team Charter utilizing the “Fist to Five” scaled technique.

5.0 MEASURABLE GOALS

5.1 Increase economic stability by increasing produce sales by 10% for local farmers and farmers markets through SNAP purchasing in the first two years of policy implementation.

5.2 Increase availability of EBT-eligible local farmers market by 100% in the first two years of policy enactment that is accessible to households in Cumberland County that are SNAP-eligible.

5.3 Increase nutritious diets by increasing local produce consumption by 20%, measuring number of self-reported consumed local fruits and vegetables in SNAP-enrolled households, both before and after policy is enacted through the annual State of the County Health Report.

5.4 Reduce prevalence of obesity and heart disease associated with food insecurity by 1%, by partnering with Cape Fear Valley Medical Center to measure outcomes before and after and within five years of policy implementation.

This MOU may be amended only by the written consent of the parties. In witness thereof, the parties have offered their signatures hereto:

HEALTH DEPARTMENT

DATE

DSS

DATE

PERSUASIVE PITCH PRESENTATION – BANNANTINE



EXPANSION OF ACCESS TO HEALTHY FOODS FOR SNAP-ELIGIBLE HOUSEHOLDS TO REDUCE FOOD INSECURITY THROUGH THE CREATION OF AN ACCOUNTABLE CARE COMMUNITY IN CUMBERLAND COUNTY, NORTH CAROLINA

Kit Bannantine, Madi Smith, & Megan Telfer
SPHG 992

[https://www.uncg.edu/gillings-school-of-global-public-health/](#)
[https://www.uncg.edu/gillings-school-of-global-public-health/](#)
[https://www.uncg.edu/gillings-school-of-global-public-health/](#)
[https://www.uncg.edu/gillings-school-of-global-public-health/](#)

Thank you all for joining us as we discuss our proposal to create an accountable care community in Cumberland County, North Carolina. This ACC will reduce food insecurity through the expansion of access to healthy foods for SNAP-eligible households. We're grateful for your consideration.

PROPOSED TRANSFORMATION

FOOD INSECURITY

Increase community availability of fresh, local produce

01

02

POLICY

Enact policy that mandates EBT use for farmers market purchases

ECONOMIC STABILITY

Boost the local economy, especially for farmers

03

04

HEALTH OUTCOMES

Reduce negative health outcomes associated with food insecurity

Our ACC plans to address food insecurity by expanding equitable access to healthy food and taking advantage of SNAP in Cumberland County. We will enact a policy mandating farmers' markets in the community accept Electronic Benefit Transfer (or EBT) payment and maintain the necessary equipment to establish and operate a farmers' market SNAP program. This policy is needed as there are currently no farmers' markets in the county accepting EBT payment.

A policy mandating SNAP implementation in farmers' markets would encourage the purchase of fresh produce by those who may be food insecure and increase the number of locations in the county that accept SNAP benefits, thus boosting the economy, especially for local farmers. In increasing access to fresh fruits and vegetables to those who are SNAP-eligible, we aim to increase number of consumed fruits and vegetables to ultimately reduce negative health outcomes associated with food insecurity, such as heart disease and obesity.



This graphic briefly shows what our policy could look like in action at a Cumberland County Farmers' Market. On the top left would be the Fayetteville Farmers' Market Association management, followed by an EBT card (similar to a debit card). Below that is the equipment used to process EBT payments, and below that to the left is a SNAP-enrolled community member.

KEY PARTNERS

01

**CUMBERLAND
COUNTY DEPARTMENT
OF SOCIAL SERVICES**

02

**FAYETTEVILLE
FARMERS' MARKET
ASSOCIATION**

03

**REILLY ROAD
FARMERS' MARKET**

- STATE AND FEDERAL GOVERNMENT

- USDA

- CUMBERLAND COUNTY

- SNAP-ELIGIBLE COMMUNITY MEMBERS



**DEPARTMENT OF PUBLIC
HEALTH**

- BOARD OF COMMISSIONERS

- LOCAL COMMUNITY ORGANIZATIONS

Now we would like to speak directly to three entities that we believe will be key partners of the ACC in working alongside the backbone agency, the Cumberland County Department of Public Health, and other stakeholders listed on the right in bringing about our transformation.

Image retrieved from <http://www.ccdssnc.com/fns-food-stamps/>



CUMBERLAND COUNTY DEPARTMENT OF SOCIAL SERVICES

EXPERTISE

SNAP eligibility
and EBT use

INVOLVEMENT

Research and data
capture

WE VALUE
YOUR....

ACCESS AND UNDERSTANDING

Needs of
SNAP-eligible
households

PARTNERSHIP

Community outreach

Cumberland County Department of Social Services, you are a valued partner in this transformation. We need your partnership for the policy to be successful. We would value your knowledge and understanding of the Food and Nutrition Services Program, as well as the monthly allotment of food assistance via EBT cards to individuals and households to help them to buy the food they need for a nutritious diet. We would also value your access and experience working directly with SNAP-enrolled community members. Your partnership would involve assisting the project team with researching the steps for farmers' markets to receive EBT approval, as well as acting as a liaison between the Fayetteville Farmers' Market Association management and state and federal government entities to achieve the policy. Together we can provide education and outreach to the community, especially for SNAP eligible households, informing them where they can use SNAP benefits, like at local farmers markets. With your partnership, together we can increase utilization of federal assistance program benefits, ultimately improving access to food needed for a more nutritious diet, to improve health outcomes of community members residing in Cumberland County, North Carolina.

APPENDIX C-1 – BANNANTINE

Table 1. Demographic Information for Cumberland County, NC.

Retrieved from <https://www.census.gov/quickfacts/cumberlandcountynorthcarolina>

Race and Hispanic Origin	
White alone, percent	51.1%
Black or African American alone, percent (a)	39.1%
American Indian and Alaska Native alone, percent (a)	1.9%
Asian alone, percent (a)	2.7%
Native Hawaiian and Other Pacific Islander alone, percent (a)	0.4%
Two or More Races, percent	4.8%
Hispanic or Latino, percent (b)	12.1%
White alone, not Hispanic or Latino, percent	42.4%

Table 2. County to State Comparisons.

Retrieved from http://www.co.cumberland.nc.us/docs/default-source/health-documents/annual-reports-chs-sotch/cumberland-county-sotch-2019-final.pdf?sfvrsn=ad3d4777_4

Median Household Income ¹	Percent Uninsured ¹	Unemployment ⁴	Veteran Status ²	Educational Attainment ¹
Median household income is lower in Cumberland than NC.	Lower percent of uninsured live in Cumberland.	Unemployment rate is higher than NC.	Cumberland has more than double the rate of veterans in NC.	Cumberland has a higher attainment of high school graduation.
Cumberland County \$45,716	Cumberland County 10.7%	Cumberland County 5.1%	Cumberland County 20.9%	Cumberland County 90.7%
North Carolina \$52,413	North Carolina 12.7%	North Carolina 3.9%	North Carolina 8.3%	North Carolina 87.4%

Table 3. Income & Poverty in Cumberland County, NC.

Retrieved from <https://www.census.gov/quickfacts/cumberlandcountynorthcarolina>

Income & Poverty	
Median household income (in 2018 dollars), 2014-2018	\$45,716
Per capita income in past 12 months (in 2018 dollars), 2014-2018	\$24,301
Persons in poverty, percent	17.0%

Table 4. CATWOE Analysis.

C - Customers	Who are they, and how does the issue affect them?	<ul style="list-style-type: none"> • People/households that qualify for SNAP in Cumberland County(esp. Households with children at CCS) • Local farmers
A - Actors	Who is involved in the situation? Who will be involved in implementing solutions? What will impact their success?	<ul style="list-style-type: none"> • Local farmers • Local government • Public health department • Dept of Social Services • CCS
T - Transformation	What processes or systems are affected by this issue? What is the transformation that lies at the heart of the system?	<ul style="list-style-type: none"> • Increase access to affordable fresh fruits and vegetables • Maximize use of SNAP benefits
W - Worldview	What is the big picture and what are the wider impacts of the issue?	<ul style="list-style-type: none"> • Access to healthy food • More economically stable community (therefore, more food secure)
O - Owners	Who owns the process or situation you are investigating? What role will they play in the solution?	<ul style="list-style-type: none"> • Dept of Social Services (regulate SNAP) • Public health department • Local farmers?
E - Environmental Constraints	What are the constraints and limitations that will impact the solution and its success?	<ul style="list-style-type: none"> • # of farmers' markets in Cumberland County • Seasonal (centered around when produce is available/markets are open) • SNAP - how helpful can it be? How much do people receive/month?

Figure 1. Food Insecurity in Cumberland County, NC.

Retrieved from <https://map.feedingamerica.org/county/2018/overall/north-carolina/county/cumberland>

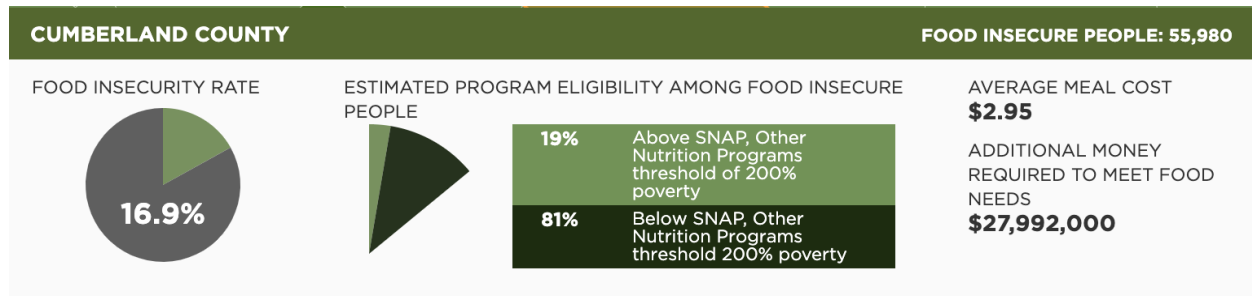


Figure 2. Median Household Income by Zip Code (American Community Survey, 2012-2016).

Retrieved from http://www.co.cumberland.nc.us/docs/default-source/health-documents/annual-reports-chs-sotch/cumberland_county-chna-report-final_20189edab9a04f714343a9602096f9941ca0.pdf?sfvrsn=94558d92_2

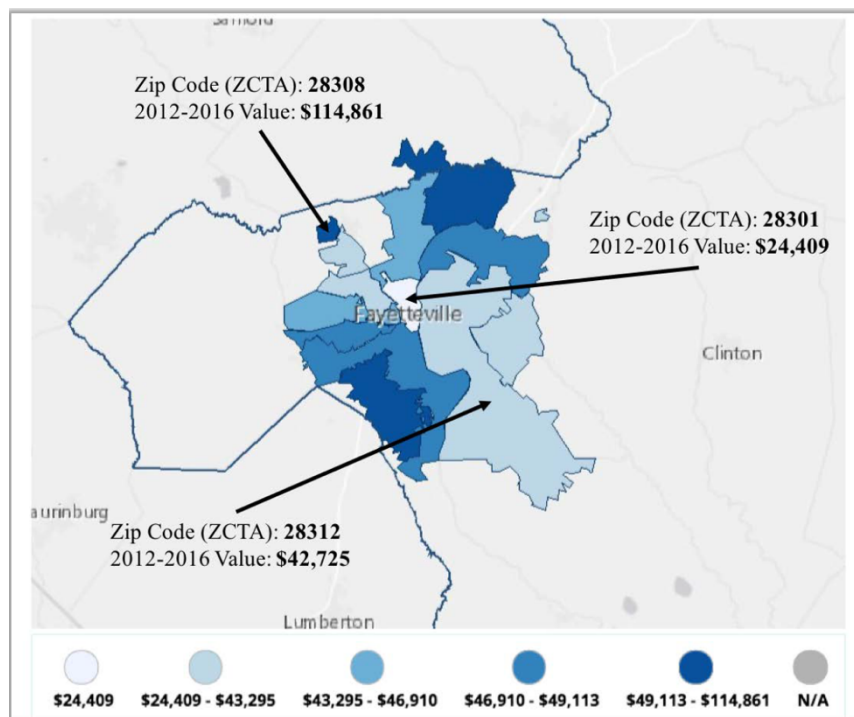
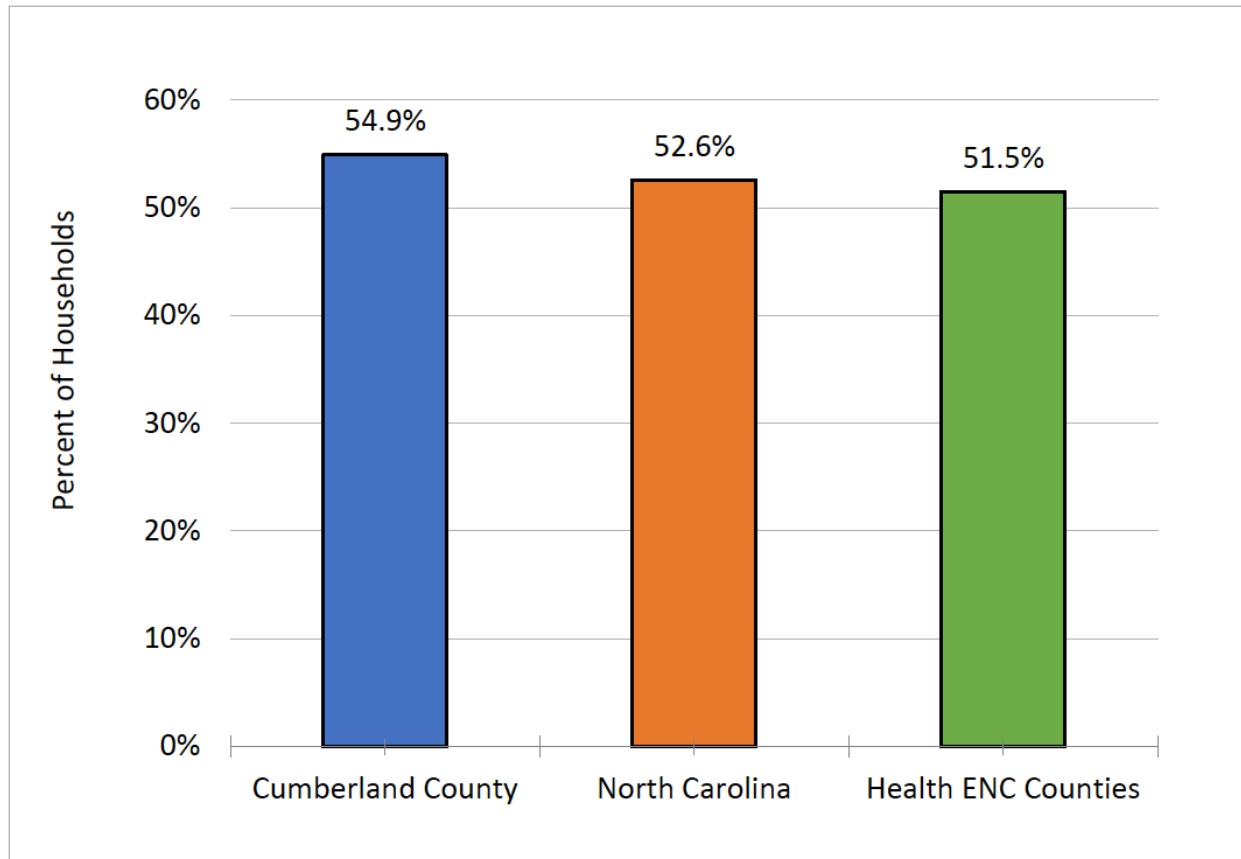


Figure 3. Children Receiving SNAP (American Community Survey, 2012-2016).

Retrieved from http://www.co.cumberland.nc.us/docs/default-source/health-documents/annual-reports-chs-sotch/cumberland_county-chna-report-final_20189edab9a04f714343a9602096f9941ca0.pdf?sfvrsn=94558d92_2



Food Insecurity

ECONOMIC INSTABILITY

Federal Assistance Programs

WALMART

SNAP Eligibility?

Mr. Poverty

Health Outcomes

- emotional
- physical
- mental

diabetes

heart

STRESS ON HOUSEHOLDS

MINORITIES POPULATIONS - RACIAL DISPARITIES

SCHOOLS

ENRON

COMMUNITY

Home

1hr 20 mins

Public Taxis 34 minutes

No Route Found

FARMERS

BUDGET

- Utilities
- Food
- Student Loans

BUDGET

- Roof Leak
- Utilities
- Food
- Student Loans

BUDGET

- Medical Bill
- Roof Repair
- Utilities
- Food
- Car Bill
- Student Loans

ENRON LAY OFFS (UNEMPLOYMENT)

LOCAL FARM/GARDEN

May Budget

December

Health complication

Learning and Growth is Limited

Difficult on Elderly

Hunger

in Cumberland County

[illegible]

Retrieved from <http://btsg.ccs.k12.nc.us/school-lunch-information/>

	2020-2021	Meal Prices
	Breakfast	Lunch
Grades K-5 (paying)	\$0.00	\$2.15
Grades 6-12 (paying)	\$0.00	\$2.25
All Grades (reduced price)	\$0.00	\$0.40
Extra Milk – Students/ Adults	\$0.50	\$0.50
Adults	A la Carte Pricing	A la Carte Pricing

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APPENDIX D – SMITH DELIVERABLES

PROBLEM STATEMENT – SMITH

Social Determinants of Health

Economic stability in a community is considered a social determinant of health. These social determinants of health (SDOH), defined by Healthy People as “conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks,” are important to consider when assessing how to best approach the health of a community (“Social Determinants of Health,” n.d.). Up to 80 percent of a person’s overall health outcomes are attributed to these SDOH (“About Healthy Opportunities,” n.d.). In thinking about health in Cumberland County, North Carolina (NC), the SDOH of economic stability and, specifically, the goal of reducing household food insecurity will be the focus. It is essential to examine the context of Cumberland County and its food insecurity to fully understand the problem, needs, and assets of this area, which can then be used to determine how to best approach the issue.

Food Insecurity

Food insecurity is “the disruption of food intake or eating patterns because of lack of money or other resources (“Food Insecurity,” n.d.).” The impacts of food insecurity are significant and can vary. Though not always related, hunger can be a short-term outcome (“Food Insecurity,” n.d.). Various serious health complications and disparities can also be health outcomes of food insecurity. These issues can include malnutrition, obesity, diabetes, hypertension, hyperlipidemia, and poor sleep outcomes (Gundersen & Ziliak, 2015). Food insecurity leads, not only, to these negative physical health outcomes, but it can also have an impact on a child’s health and developmental growth and can lead to mental health problems and emotional distress for adults as they must make impossible decisions, such as choosing between paying for food or for critical healthcare (“How Do You Measure Hunger?,” n.d.).

Cumberland County

Cumberland County is located in the center of NC in a region known as the “Sandhills” (Cumberland County Department of Public Health, 2019). Fayetteville is its largest city, and the county is best known for being the location of Fort Bragg, one of the US Army’s largest installations in the world (Cumberland County Department of Public Health, 2019). In 2016, the population of the county was just over 325,000 people (Cumberland County Department of Public Health, 2019). The proportion of minority residents in Cumberland County is larger than compared to the state as a whole (see Appendix D-1, Figure 1).

There are health disparities present in Cumberland County that are linked to food insecurity. Two leading causes of mortality in the county, heart diseases and diabetes, are both negative health outcomes of food insecurity and have higher rates in this county than they do across all of NC (Cumberland County Department of Public Health, 2019). More than half the Cumberland County population is considered obese, another condition related to food insecurity issues (Cumberland County Department of Public Health, 2019).

Priority Population

In considering the issue of food insecurity in this area, it is important to focus specifically on people living in poverty or in a state of economic instability because “the risk for food insecurity increases when money is limited or not available (“Food Insecurity,” n.d.).” Unemployment/under-employment rates, racial and ethnic disparities, disability, and inconsistent access to healthy food also have an impact on food insecurity (“Food Insecurity,” n.d.) and are linked to economic instability.

Economic instability is present in Cumberland County. 17.6% of the population in the county lives below the poverty line and 14.8% are unemployed (Cumberland County Department of Public Health, 2019). The Supplemental Nutrition Assistance Program (SNAP) is a federal assistance program that provides low-income families with electronic benefit transfers (EBT) that can be used to purchase food, in an effort to increase food security and reduce

hunger by increasing access to nutritious food (Cumberland County Department of Public Health, 2019). The percent of households with children that participate in SNAP in Cumberland County is 54.9%, higher than the state value at 52.6% (Cumberland County SNAP (Food Stamp) Household Statistics, n.d.), which illustrates the greater demand in the county for access to federal assistance programs in combatting food insecurity.

Scope of the Problem

Data around food insecurity highlights that this is an issue in Cumberland County that needs to be addressed. In 2018 in Cumberland County there was a food insecurity rate of 20%, compared to only 16% in all of NC (Cumberland County Department of Public Health, 2019). The child food insecurity rate was higher, at 22.1% in the county in 2016 (Cumberland County Department of Public Health, 2019). The Food Environment Index Score, on a scale of 0 to 10, was also worse in Cumberland County than in the whole state (6 vs. 7.5) (Cumberland County Department of Public Health, 2019). This score is determined by weighing two indicators: the percentage of people with limited access to healthy foods and the percentage of people with food insecurity.

Rationale

Food insecurity is linked to poverty, both poverty and food insecurity are issues in Cumberland County, and the demographics of the county include a high portion of the population enrolled in SNAP. By reducing household food insecurity in Cumberland County, the SDOH of economic stability will be addressed and there will be marked improvements in the community's health.

PROGRAM AND POLICY OPTION – SMITH

SNAP

Programs and policies can be developed and implemented to address the issue of food insecurity in Cumberland County. The proposed program and policy solutions will be centered around SNAP. The Supplemental Nutrition Assistance Program, or “SNAP,” is a federal program that “provides timely, targeted, and temporary benefits to people in need so that Americans have access to nutritious food” (“Understanding SNAP, the Supplemental Nutrition Assistance Program,” n.d.). These SNAP benefits are delivered monthly through electronic debit (EBT) cards so households can purchase nutritious foods at authorized retailers (“Understanding SNAP, the Supplemental Nutrition Assistance Program,” n.d.). In 2019, SNAP reached 12% of the both the NC and US population and it’s estimated that \$1 in SNAP benefits generates \$1.70 in economic activity (Nchako & Cai, 2020), proving that this program is both utilized and effective.

Program: SNAP Navigation Services in CCS

In North Carolina in 2016, 63% of SNAP participants were in households with children and 86% of the SNAP-eligible individuals in the state participated in the program (Nchako & Cai, 2020). These numbers indicate that there are still people who could benefit from SNAP who are not taking advantage of the program and that households with children are the top beneficiary of this program’s services. SNAP aids the entire family, by helping ensure more positive physical, mental, and emotional health outcomes. For these reasons, a SNAP navigation program that operates within Cumberland County Schools (CCS) will be helpful in ensuring SNAP reaches as many families in the county as possible.

This program will utilize CCS employees (nurses, food service staff, social workers, etc.) to better inform families about what SNAP is and how they can access it. 54.9% of households with children in Cumberland County participate in SNAP, so a program to provide more support services around access and eligibility will be appreciated (Cumberland County Department of

Public Health, 2019). Through these SNAP navigation services, families will learn more about the program through school open houses, materials sent home with students, and curriculum shared with the students about how to live a healthier lifestyle and what services are in place to help them, and their families, do so. CCS employees will assist families in understanding the importance of the program, determining if they are eligible, navigating the application process, and growing in knowledge about what types of foods are most nutritious for the family.

Possible barriers and disadvantages to this program are largely related to staffing. If the CCS employees necessary for this program are unable to allocate adequate time to provide these services, the program will not be successful. Funding will likely be needed to hire employees specifically for this role. Also, there may be privacy policies in place that limit access to information about those families enrolled or eligible for SNAP.

Policy: SNAP Use in Farmers' Markets

SNAP benefits cannot be used to purchase alcohol and tobacco products or any nonfood items ("Understanding SNAP, the Supplemental Nutrition Assistance Program," n.d.). However, a USDA report shows that a disproportionate amount of SNAP money is going toward unhealthy foods and that SNAP beneficiaries are spending only 40 cents per dollar on basic food items, while the other 60 cents is spent on processed and junk food items (O'Connor, 2017). In a sense, this federal government program is subsidizing unhealthy eating and perpetuating the public health issue of food insecurity. As a way to combat this issue, policy must be put in place in NC and Cumberland County to expand SNAP use to farmers' markets to purchase fresh fruits and vegetables and broaden these market locations that accept SNAP benefits.

The Farmers' Market Coalition (FMC) is an organization dedicated to strengthening farmers' markets across the country so they can be community assets while providing real income opportunities for farmers ("Supplemental Nutrition Assistance Program (SNAP)," 2019). According to the FMC website, a top policy priority that will direct more SNAP customers to

markets is to assist state associations in advocating for state legislation supporting SNAP for farmers' markets ("Supplemental Nutrition Assistance Program (SNAP)," 2019). This policy would help cover the costs related to establishing and operating a farmers' market SNAP program and ensure the presence of farmers' markets in Cumberland County that accept SNAP. Not only would this allow for SNAP benefits to be accepted at farmers' markets and for people to have easier access to fresh fruits and vegetables, but it would also stimulate the local economy through boosting farmers' market sales.

SNAP acceptance is already in place in many farmers' markets around the country and in NC. There were 95 SNAP-authorized farmers' markets in NC in 2019 ("Farmer/Producer," n.d.). For example, the Durham Farmers' Market in nearby Durham County, NC has accepted SNAP/EBT benefits since 2014 with much success ("Food Programs," n.d.). In 2017, \$24.4 million in SNAP benefits were redeemed at farmers' markets across the US, a more than 35% increase since 2012 (Farmers Market Coalition, 2020). Increased SNAP use at farmers' markets will increase the amount of money being funneled towards local produce and thus serve as a boost to the local economy. This rise in local produce sales indicates that more people are accessing healthier foods and using the SNAP program for its intended purpose of assisting those who are food insecure and otherwise may not be able to purchase nutritious food.

Possible barriers and disadvantages to this policy to consider would be the local community members' awareness and utilization of local farmers' markets. SNAP beneficiaries may prefer the alternative options that are allowed through SNAP due to the barriers of timing, transportation, and overall cost. It would be important to incorporate the community and partners in this policy decision to increase utilization through community buy-in and understand the behavioral component of food selection amongst community members.

Quality Improvement

The program will be continuously evaluated through surveys of community members and CCS and social services employees while the policy will call on community members, farmers'

market administration, and local farmers to provide feedback. The success of the program and policy will also be measured in partnership with the Cape Fear Valley Medical Center through Community Health Needs Assessments (CHNA) and State of the County Health (SOTCH) reports to identify impact on health outcomes associated with food insecurity like heart disease and obesity.

Recommendation

After examining both a feasible program and policy option in Cumberland County to address food insecurity reduction, it is recommended to move forward with implementing policy that mandates the acceptance of SNAP at farmers' markets. This policy is the best approach because it has already been implemented with success around the country and will be an approach available to all SNAP-eligible people in Cumberland County. The policy contributes to a more health equitable county because it allows for an increased number of people to be able to access fresh and local foods and therefore have a better chance at improving their own health.

STAKEHOLDER ANALYSIS – SMITH

Food insecurity can be an indicator of economic instability, a social determinant of health (SDOH), and is described in Cumberland County, North Carolina (NC) using the rich picture provided in Appendix D-1, Figure 2. Unemployment and underemployment, poverty, racial disparities, SNAP eligibility, distance to grocery stores, etc. all contribute to the landscape of food insecurity in the county. This system of food insecurity in Cumberland County does not provide adequate food options to the community. It creates limited access to affordable fresh fruits and vegetables and impacts the nutritional status and disease outcomes of households living in poverty that aren't maximizing the use of SNAP benefits.

A CATWOE analysis is used to better understand the stakeholders in Cumberland County that are relevant to the issue of food insecurity. This tool (see Appendix D-1, Table 1) identifies the entities surrounding the issue who are customers (C), actors (A), part of the transformation (T), part of the worldview (W), owners (O), and related to environmental constraints (E). Within this analysis, the key stakeholders identified that were examined in further detail are the Cumberland County Department of Public Health, the Cumberland County Department of Social Services, the Cumberland County Board of Commissioners, Cumberland County Schools, local farmers and farmers' market management, and SNAP-eligible community members.

The Cumberland County Public Health Department is the backbone stakeholder agency surrounding the issue of food insecurity in the county. They are knowledgeable about food insecurity, how it's related to economic instability, and what interventions can be implemented to reach sustainable solutions. They are also able to ensure the execution of programs and policies that address this problem. The health department knows the Cumberland County community well and is connected to various resources and community leaders that will be helpful in coordinating successful initiatives.

Participation by the Cumberland County Department of Social Services will be helpful in navigating the SNAP program and optimizing that service to provide more nutritious food for people in the county who are food insecure. This department has expertise in assisting with enrolling people in the program and can also inform SNAP-eligible community members about all that the program provides. Social Services will also serve as a valuable resource in assisting local farmers' markets go through the process of becoming eligible to accept EBT and thus provide more access to fruits and vegetables for those who are in the SNAP program. The Cumberland County Board of Commissioners will be able to mandate policies that will be helpful in addressing food insecurity, such as a policy related to the work Social Services is a part of that calls for EBT acceptance at local markets. Both of these stakeholders may present pushback as they already have many duties and responsibilities, so programs and policies that are efficient and sustainable will be crucial.

Staff from nutrition services, social workers, and administrators within Cumberland County Schools (CCS) are important stakeholders because of their direct access to youth and their families in the community. This includes the county superintendent and school board. CCS staff and leadership are more easily able to identify households who qualify for SNAP or those already enrolled who can better take advantage of the benefits of the program. They can guide SNAP-eligible households through the process of enrollment and educate children and their families on a nutritious diet and healthier lifestyle. They are also able to implement programs within CCS that will benefit families that are food insecure. These stakeholders may push back if they feel they are imposing on the lifestyles or privacy of the families they work with. They will want to make sure any relevant programs are created with integrity, equity, and inclusivity in mind.

Local farmers and farmers' market management are important stakeholders in Cumberland County due to the role they play in ensuring community members have access to fresh and nutritious produce. Local farmers provide the necessary supply of fresh produce to

markets and grocery stores and function as a support for local initiatives and programs that ensure nutritious foods to food insecure people in the county. Farmers' market management will play a key role in monitoring the supply of produce to the markets, establishing markets around the county in key locations so as many community members as possible have access, and even ensuring markets accept EBT. These stakeholders may be resistant to change and extra work that is created for them if policy changes the structure of how their markets are run and produce is distributed. It will be important to streamline the process of what they are asked to do as much as possible.

Finally, SNAP-eligible community members are important stakeholders that must be engaged throughout the process of developing solutions to address food insecurity. These community members are vulnerable and in need of assistance to access healthy foods for their households. They are able to provide unique insight into the challenges this population faces that will be helpful in developing solutions best suited for the problem. Their buy-in to any programs or policies that are implemented is essential to ensure success and participation within the community. SNAP-eligible community members may be resistant to change if they feel they are not included in the design of program or policy and their interests are not considered. A person's economic situation and lifestyle choices are sensitive subjects, so this stakeholder will need to be treated with respect and empowerment.

The analysis of relevant stakeholders related to an issue is an important step in the process of developing programs and policies that will address the problem. In considering food insecurity in Cumberland County, NC these stakeholders play an essential role in the creation and implementation of these initiatives and ensure successful solutions that have a lasting positive impact in the community.

ACCOUNTABILITY PLAN – SMITH
MEMORANDUM OF UNDERSTANDING

between

Cumberland County Department of Public Health

and

Fayetteville Farmers' Market Association

1.0 PURPOSE

The purpose of this Memorandum of Understanding (MOU) is to develop cooperation and promote sustainable partnerships by and between the Cumberland County Department of Public Health (hereinafter referred to as HEALTH DEPARTMENT) and the Fayetteville Farmers' Market Association (hereinafter referred to as FARMERS' MARKETS) as they work together in an Accountable Care Community (ACC). The goals of this partnership shall be to enforce local policy that establishes farmers' markets that accept Supplemental Nutrition Assistance Program (SNAP) benefits and, in so doing, reduce food insecurity in SNAP-eligible households in the community.

2.0 PARTNERSHIP PRINCIPLES

The work of the HEALTH DEPARTMENT and FARMERS' MARKETS shall adhere to the following principles:

- 2.1 Respect the unique nature of each partner and their contributions;
- 2.2 Establish clear and open communication by striving to understand each other's needs and interests;
- 2.3 Promote collaboration;
- 2.4 Maintain a population-health orientation and work to promote social determinants of health, specifically economic stability and food security;
- 2.5 Prioritize health equity and the needs of community members classified as food insecure as primary motivators when making all decisions.

3.0 HEALTH DEPARTMENT SCOPE OF ACTIVITIES

- 3.1 **Assess:** Both the HEALTH DEPARTMENT and FARMERS' MARKETS will assess the current farmers' market system in Cumberland County to determine strategic locations to establish markets accepting SNAP benefits.
- 3.2 **Establish:** Both the HEALTH DEPARTMENT and FARMERS' MARKETS will work to establish at least one farmers' market in Cumberland County that accepts SNAP benefits.
- 3.3 **Promote:** The HEALTH DEPARTMENT will educate SNAP-eligible households about locations accepting SNAP benefits and the advantages of shopping at farmers' markets.

4.0 FARMERS' MARKETS SCOPE OF ACTIVITIES

- 4.1 **Assess:** Both the HEALTH DEPARTMENT and FARMERS' MARKETS will assess the current farmers' market system in Cumberland County to determine strategic locations to establish markets accepting SNAP benefits.
- 4.2 **Establish:** Both the HEALTH DEPARTMENT and FARMERS' MARKETS will work to establish at least one farmers' market in Cumberland County that accepts SNAP benefits.
- 4.3 **Implement:** FARMERS' MARKETS will implement farmers' markets that accept SNAP benefits so that SNAP-eligible households have easier access to fresh fruits and vegetables and thus reduce their food insecurity.

5.0 MEASURABLE GOALS

- 5.1 At least one farmers' market accepting SNAP benefits will be established in Cumberland County within the first year of policy implementation.
- 5.2 Fresh fruit and vegetable consumption for SNAP-eligible households in Cumberland County will increase by 20% within the first year of policy implementation.

- 5.3 There will be a reduction of food insecurity, and the negative health outcomes related to food insecurity, as a result of this policy and partnership.

6.0 RENEWAL, TERMINATION, AND AMENDMENT

- 6.1 This MOU shall remain in force for a period of two years from the date of the last signature. This MOU may be extended by the written consent of the parties.
- 6.2 This MOU may be terminated by either party by giving written notice to the other party at least 180 days in advance of the stated termination date.
- 6.3 Prior to the completion of the initial term of this MOU, the HEALTH DEPARTMENT and FARMERS' MARKETS will assess the impact and effectiveness of this partnership and report their recommendations for future agreements to each party's respective governing entity.

This MOU may be amended only by the written consent of the parties. In witness thereof, the parties have offered their signatures hereto:

HEALTH DEPARTMENT

DATE

FARMERS' MARKETS

DATE

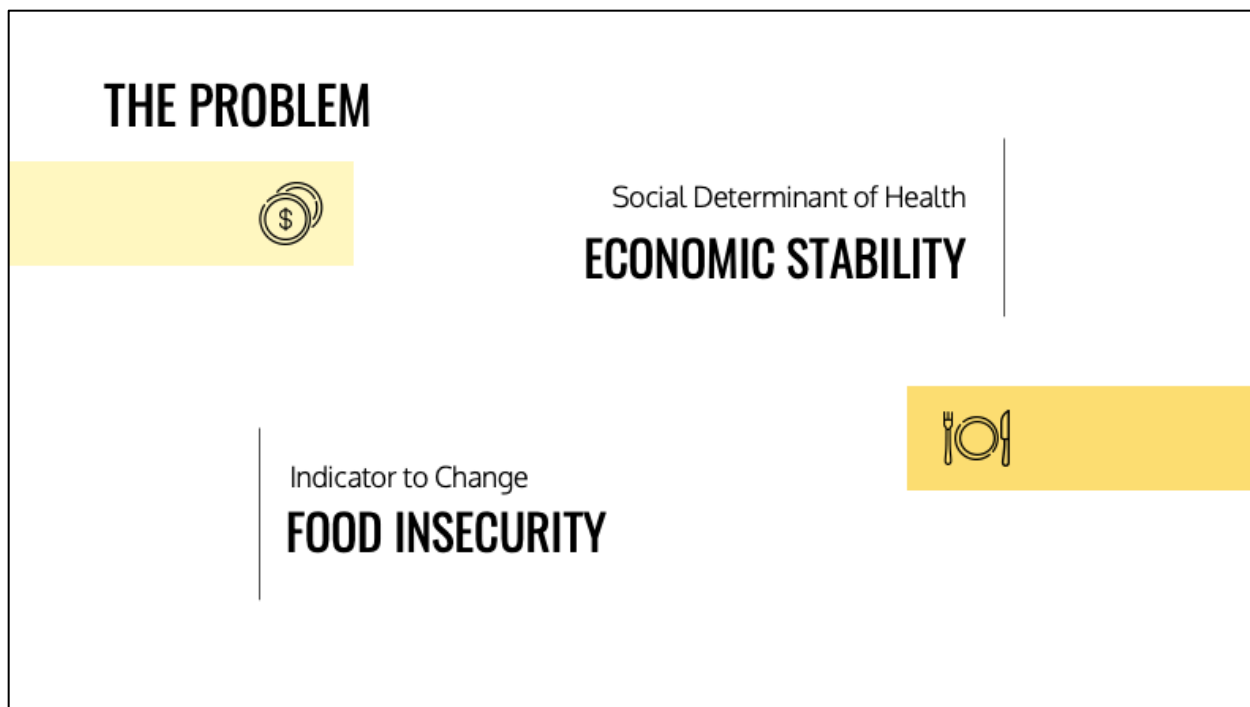
PERSUASIVE PITCH PRESENTATION – SMITH

Slide Presentation [Excerpt] and Corresponding Script



Madeleine A. Smith:

Good evening! We are Team Foodonomics. I'm Madi Smith with Kit Bannantine and Megan Telfer. Thank you all for joining us tonight as we discuss our proposal to create an accountable care community in Cumberland County, North Carolina. This ACC will reduce food insecurity through the expansion of access to healthy foods for SNAP-eligible households. We're grateful for your consideration.



Madeleine A. Smith:

Research shows that up to 80 percent of a person's overall health is driven by other social and environmental factors and the behavior influenced by them. These social factors are called social determinants of health. In thinking about health in Cumberland County, North Carolina, the social determinant of economic stability will be the focus. Economic stability has a deep impact on a person's health, safety, and well-being, but also on healthcare utilization and costs. Food insecurity is an indicator of economic stability and what we will be seeking to change through our transformation. Food insecurity is the state of being without reliable access to a sufficient quantity of affordable, nutritious food.

CUMBERLAND COUNTY

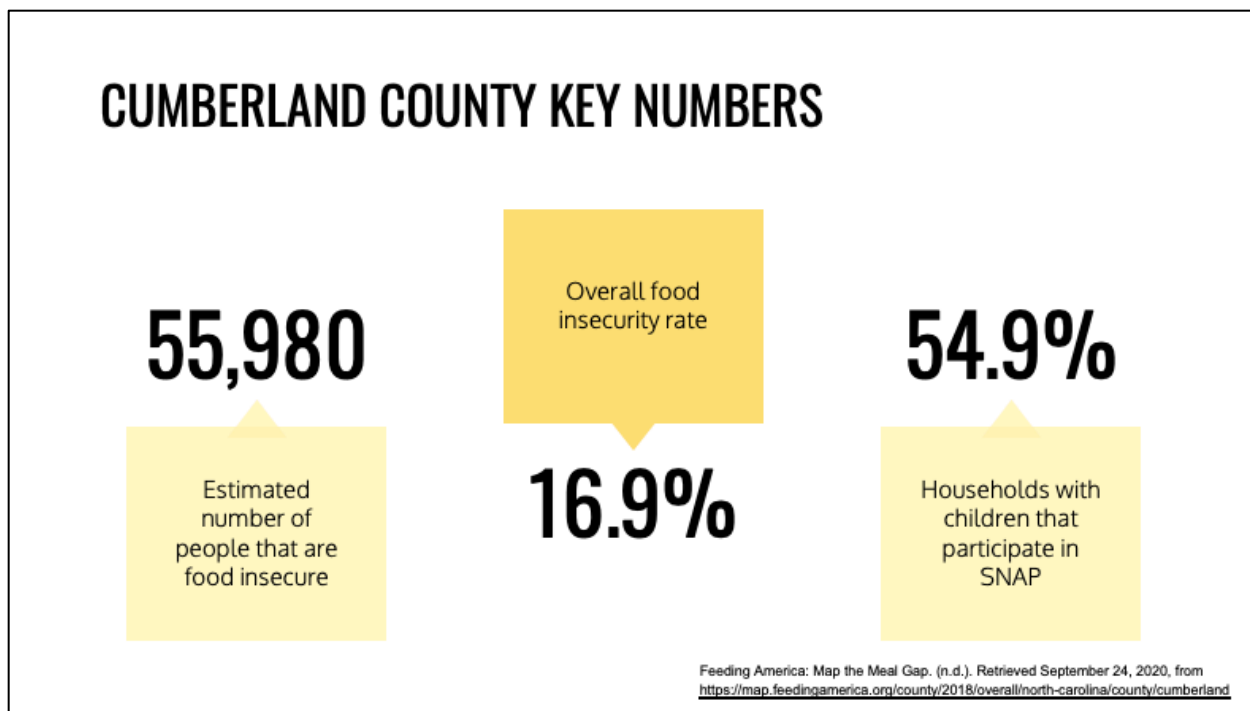


Cumberland County, North Carolina

Retrieved from <https://www.wikipedia.org/geography/cumberland>

Madeleine A. Smith:

Cumberland County is located in the center of North Carolina with Fayetteville as its largest city. There are health disparities present in Cumberland County that are linked to food insecurity. Two leading causes of mortality in the county, heart diseases and diabetes, are both negative health outcomes of food insecurity and have higher rates in this county than they do across all of North Carolina. More than half the Cumberland County population is considered obese, another condition related to food insecurity issues.



Madeleine A. Smith:

Within Cumberland County, it is estimated that 55,980 people are food insecure, at a rate of approximately 16.9% compared to those who are food secure. County residents also face higher levels of poverty compared to the state and nation, with an approximate 17% of people in Cumberland County living in poverty. The percent of households with children that participate in SNAP, formerly known as ‘food stamps’, is 54.9%. This illustrates the importance of addressing and reducing food insecurity and hunger in households living in poverty.



Madeleine A. Smith:

We need you, the Fayetteville Farmers' Market Association, to ensure the success of this proposed policy. You are an important part of our ACC because of the role you play in making sure community members have access to fresh and nutritious produce. As the administrators for Fayetteville-area farmers' markets, your knowledge of how markets are run, relationship with vendors in the community, and ability to implement policy locally in markets will be invaluable.

Within our ACC, we see your role being twofold. Firstly, once policy is implemented and SNAP is an accepted form of payment at local farmers' markets, we will need your help to manage the distribution and sales of farmers' market produce and products to SNAP-eligible customers. This will not look much different from how farmers' markets are currently being run.

Secondly, your skill and resources will be crucial to maintain EBT equipment and pay necessary fees. In North Carolina, FIS financial systems provide the EBT equipment and set-up at no cost and individual markets must only pay additional monthly and transactional fees.

With your help, we can further expand equitable access to fresh fruits and vegetables for SNAP-eligible community members. Not only would your participation allow for SNAP benefits

to be accepted at farmers' markets so people have easier access to healthy foods, but it would also stimulate the local economy through boosting farmers' market sales.

APPENDIX D-1 – SMITH

Figure 1. Graph displaying population by race/ethnicity (Cumberland County Health Department, 2019).

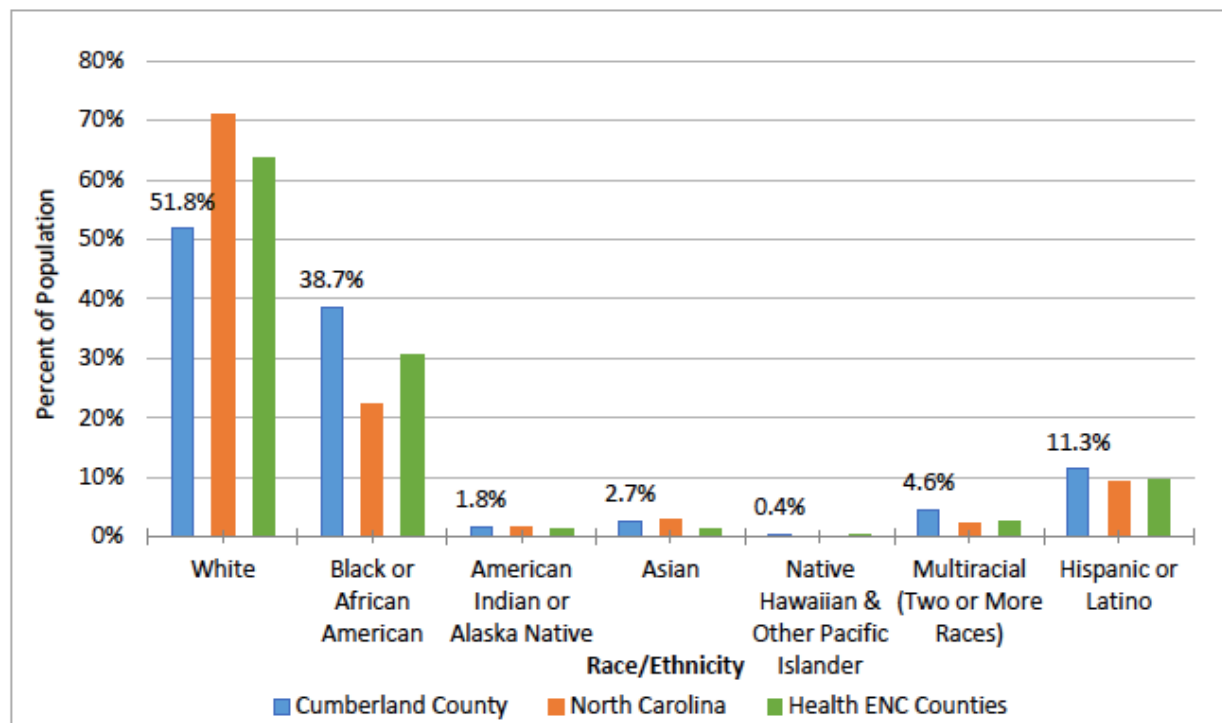


Figure 2. Rich picture showing the system of food insecurity in Cumberland County, North Carolina.



Table 1. CATWOE analysis of stakeholders relevant to the system of food insecurity in Cumberland County, North Carolina and the proposed program and policy.

C - Customers	Who are they, and how does the issue affect them?	<ul style="list-style-type: none"> • People/households that qualify for SNAP in Cumberland County (especially households with children at Cumberland County Schools) • Local farmers
A - Actors	Who is involved in the situation? Who will be involved in implementing solutions? What will impact their success?	<ul style="list-style-type: none"> • Local farmers, specifically Reilly Road Farmers' Market • Cumberland County Board of Commissioners • Cumberland County Department of Public Health • Cumberland County Department of Social Services • Cumberland County Schools
T - Transformation	What processes or systems are affected by this issue? What is the transformation that lies at the heart of the system?	<ul style="list-style-type: none"> • Increase access to affordable fresh fruits and vegetables • Maximize use of SNAP benefits

W - Worldview	What is the big picture and what are the wider impacts of the issue?	<ul style="list-style-type: none"> • Access to healthy food • More economically stable community (therefore, more food secure)
O - Owners	Who owns the process or situation you are investigating? What role will they play in the solution?	<ul style="list-style-type: none"> • Cumberland County Department of Social Services (regulate SNAP) • Cumberland County Department of Public Health • Local farmers
E - Environmental Constraints	What are the constraints and limitations that will impact the solution and its success?	<ul style="list-style-type: none"> • Number of farmers' markets in Cumberland County • Seasonal (centered around when produce is available/markets are open) • SNAP - how helpful can it be? How much do people receive/month?

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APPENDIX E – TELFER DELIVERABLES

PROBLEM STATEMENT – TELFER

Social Determinants of Health

Social determinants of health are the “conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks” (Office of Disease Prevention and Health Promotion (ODPHP), n.d., *Social Determinants of Health*). Economic stability is a social determinant of health. A household is economically stable when it is food secure, bills are paid, and expenses do not exceed the income (Artiga & Hinton, 2018). Food insecurity is an indicator of an economically unstable household. Food insecurity is “household-level economic and social condition of limited or uncertain access to adequate food with either disrupted eating patterns or reduced food intake” (ODPHP, n.d., *Economic Instability*). It has health and financial implications. Health implications include, but are not limited to, impaired growth in children, anemia, mental health problems, diabetes, stroke, hypertension (Feeding America, 2017). Many of these health problems are mismanaged and lead to more frequent hospitalizations and longer hospital stays, which is a financial implication (Feeding America, 2017).

Cumberland County

Cumberland County is located in the southeast part of North Carolina. It is 652.32 square miles, with 6.1 square miles of water. 13.4% of the county is rural. Cumberland County is broken into ten major subdivisions. Interstate-95 runs vertically through the county (Health ENC, 2019).

The estimated population of Cumberland County, North Carolina in 2018 was 332,106. Cumberland County's two largest racial groups are White and Black (see table 1) (Health ENC, 2019). The median household income in Cumberland County is \$44,810 (Health ENC, 2019). Blacks have less per capita income and median household income and more people, families, and children living below the poverty level. This causes economic instability, which leads to food

insecurity and negative health outcomes (Health ENC, 2019). The three largest employers are the U.S. Department of Defense (civilians), Cape Fear Valley Health Systems, and Cumberland County Schools (Health ENC, 2019). In December 2018, the unemployment rate was 5.0% (Health ENC, 2019).

Food insecurity is not a new problem of Cumberland County. Food insecurity was identified in both the 2013 and 2016 Cumberland County Community Health Assessment (CHA). To address food insecurity, the county takes part in the state-funded program Healthy Communities to address poor nutrition to improve health outcomes (Cumberland County Department of Public Health, 2013, 2016). The Community Coalition identified the economy, including food security, as a key area for action (Health ENC, 2019). The public input survey also identified this area as the top priority of the community (Health ENC, 2019).

Scope of the Problem

Food insecurity “may be influenced by a number of factors including, income, employment, race/ethnicity, and disability” (ODPHP, n.d., *Economic Instability*). Each of these factors can be independent or layered with other factors. Adults and children are both impacted by food insecurity due to negative health outcomes. People who are food insecure are more likely to develop chronic diseases because their bodies do not get proper nutrients (ODPHP, n.d., *Economic Instability*). Chronic diseases include diabetes, stroke, and hypertension (Feeding America, 2017). In 2014, Cumberland County had a diabetes prevalence rate of 12.6% (University of Wisconsin Population of Health Institute, 2020). Children who are food insecure face a higher risk of developmental problems compared with food-secure children. Food insecurity in children is also linked to poorer mental health, anemia, asthma, and higher hospitalization rates (Gundersen & Ziliak, 2015). Higher hospitalization rates perpetuate the cycle of economic instability because of expensive hospital bills.

In 2016, 18.8% of the population of Cumberland County lived at the Federal Poverty Level (North Carolina Institute of Medicine, n.d.). The Federal Poverty Level is a measurement

reviewed yearly to determine qualification for federal programs (HealthCare.gov, n.d.). This measure is important because food insecurity is an indicator for economic instability. In 2015, 19.0% of Cumberland County was food insecure and 30.2% had low access to a grocery store (North Carolina Institute of Medicine, n.d). 12.8% of Cumberland County was low-income and had low access to a grocery store (North Carolina Institute of Medicine, n.d).

Priority Population

The priority population identified is Cumberland County residents who qualify for the Supplemental Nutrition Assistance Program (SNAP). SNAP addresses food insecurity by giving a specified amount of money a month to supplement grocery bills to be able to buy healthier options and income can cover other household expenses. (North Carolina Department of Health and Human Services, n.d.). 54.9% of Cumberland County households received SNAP benefits (Health ENC, 2019). In 2016, one store per 1,000 people was SNAP certified in Cumberland County (Health ENC, 2019).

The priority population will include people who are receiving SNAP and all families and individuals who are eligible. SNAP helps identify people who are food insecure based on the Federal Poverty Level. In Cumberland County the eligibility criteria is based on either 130% or 200% of the Federal Poverty Level (North Carolina Department of Health and Human Services, n.d.).

Rationale

Focusing on food security in Cumberland County will improve economic stability and positively impact health outcomes. Obtaining proper nutrients at a low cost will lead to lower prevalence of diabetes and better managed diabetes. Households with better managed diabetes will have less hospitalizations and doctor follow-ups, which translates to less medical bills. These savings allow for more money to pay for other bills or to go to savings, improving economic stability.

PROGRAM AND POLICY OPTION – TELFER

Policy Option

The healthcare setting is used to screen and provide referrals for patients every day. Food insecurity should be no different. The American Academy of Pediatrics identifies that pediatricians can play an important role in screening for food insecurity and providing resources to patients (American Academy of Pediatrics, 2015). The proposed policy is mandating all Cumberland County pediatricians and family physicians screen patients yearly for food insecurity. If the screening results indicate the patient is food insecure, a staff member is required to provide information about low-income healthy food options and the Supplemental Nutrition Assistance Program (SNAP). Each medical office will decide how best to implement the screening questions and information on programs. Two questions that are recommended by Feeding America will be used. These questions can be asked or given in written form. The medical offices that are required to participate will submit their action plan to the Cumberland County Health Department on a yearly basis. This approach is successful when people are referred and linked to resources (Feeding America, 2020).

The advantages to this policy are little involvement and oversight for the doctors' offices, information given to patients can be consolidated, and the screening questions can be incorporated into other screenings. With the adoption of this policy there is not a lot of involvement from key stakeholders, so the policy can be put into place quickly. The implementation is left to the different medical providers to implement on their own, allowing each office to find the time and place to talk about food insecurity with each patient. Another advantage is a local resource guide can be given to patients and placed in waiting rooms for people to be able to take with them. Lastly, many medical providers already do yearly screenings, so the questions asked can be put into the existing screening.

The disadvantages of this policy are there is little room for community participation, there is not a way to track who is fully participating and there is no consequence for medical offices

that do not participate. Not having the input of key stakeholders can be problematic in making sure this sensitive subject is address appropriately and with the correct questions. Key stakeholders often have insights that can be overlooked by people not as familiar with the specific subject or processes. It would be difficult to track which providers are participating, how many patients are screened, and if the patients use the information that is given to them. It is important to find a way for this information to be tracked to know if the policy is having a positive impact and reaching the people it is supposed to. The policy has no way to hold medical offices accountable for not participating because there is no consequence for them to not participate. For this policy to be successful, there must be buy in from the medical community.

Program Option

The proposed program is to partner with local farmers to provide produce boxes to SNAP-eligible households at a low-cost (see Appendix, Figure 1). The program is based on the successful design and implementation of *Got Access?* (Wisconsin Department of Health Services (WDHS), 2012). The program is recommended to fill the identified gap that exists of SNAP-eligible households having access to fresh vegetables and fruits. One in five Cumberland County households lack access to a reliable food supply (North Carolina Division of Public Health, 2018). *Got Access?* offers a strong foundation by providing tools, resources, and evaluations for key stakeholders. Local farmers and Cumberland County Schools (CCS) will be invited as key stakeholders to help plan and implement the program.

With the tools provided by *Got Access?*, the key stakeholders evaluate the community through multiple assessment techniques. The assessments use tools involving finding themes, surveys, and Geographic Information Systems (GIS). The layout of how to start, what to consider, secondary strategies, possible partners, funding, and complementary practices are provided (WDHS, 2012). The steps will be adapted to Cumberland County based on the results of these community assessments.

Got Access? provides an evidenced-based approach and resources for every step of

implementation, including what has worked in other communities. While evaluation results of the program are limited, the Wisconsin Department of Public Health promotes the program as “local coalitions, community organizations, and mobilized citizens can use the components of this guide to increase the availability of and access to fruits and vegetables” (Wisconsin Department of Health Services, 2020).

If implemented in the wrong way, produce boxes can be a disadvantage for communities. For example, the USDA Farmers to Families Food Boxes created barriers for smaller farms (National Sustainable Agriculture Coalition, 2020). The programs mandated audits were timely and expensive. Smaller, local farms were unable to complete the requirement and therefore could not participate in the program. (National Sustainable Agriculture Coalition, 2020). Before accepting outside funding, it should be made clear the goal of the program is to use local farms. Additionally, using farms from one area can be problematic should a catastrophe happen to the crops in that area (WDHS, 2012). It would benefit the program to have multiple local farm sources, and a partnership with a non-local farm that can bring in variety in crops and offer an emergency plan, should local crops not be available.

Recommendation

It is recommended to move forward with the *Got Access?* program because it is evidence-based. The program has a solid foundation of how to move forward and is already working within communities. This program is designed to start at the ground level of the community and build up, creating interest and ownership from the community.

The values that are important are keeping it at the local level and equity of access. These values come from Article 25 of the United Nations Declaration of Human Rights naming food as a “right to standard of living adequate for the health and well-being of himself and of his family” (United Nations, 1948). Having equitable access to food is important to being able to live the most adequate life in terms of health and well-being. These two values have guided the process forward and been in the discussions on how best to reach the goals. The program and

policy embody these values. Keeping the program at the local level helps economic sustainability for the farmers and families. Equity of access is key to the success of the program and policy. If people cannot access services, there is no point in spending valuable resources this project and policy.

It was difficult to decide which policy and program to choose because there are many ways to tackle food insecurity. What ultimately helped make the decision was deciding how the program and policy are going to work together to make the other stronger. Another factor that helped this decision is both the policy and program have seen successes in other communities, which provides resources and direction.

Quality improvement is important to incorporate into any program to make sure the goals are being met and the correct population is being reached. First, run charts will be used to collect data for quality improvement purposes. Possible data to be collected are the number of boxes sold and number of people using SNAP benefits to pay for boxes. Another data collection for quality improvement is using surveys to engage and get feedback from people receiving produce boxes and the farmers. Lastly, the Plan, Do, Study, Act (PDSA) cycle will be used for continuous quality improvement. This tool allows the produce box program to start small, make changes for what does not work, and allow the program to grow larger slowly (Institute for Healthcare Improvement, n.d.). Community health outcomes will be measured on an annual basis through the State of the County Health (SOTCH) Report and every three years through the Cumberland County Community Health Needs Assessment. Indicators in these reports include number of households using SNAP, number of households that are food insecure, and reporting on rates of chronic diseases.

STAKEHOLDER ANALYSIS – TELFER

Understanding Cumberland County is the first step to making an impactful change in health outcomes. A rich picture (see Appendix, Figure 1) was drawn to identify the community and give information on how the systems within the community work together. The system of food insecurity in Cumberland County, North Carolina is a system that does not provide adequate food options to the community. It creates limited access to affordable fresh fruits and vegetables and impacts households living in poverty that are not maximizing the use of Supplemental Nutrition Assistance Program (SNAP) benefits, amplifying poor health outcomes.

The produce box program and SNAP benefits at farmers markets policy were chosen work together to address food insecurity by providing healthy food options at a low cost for SNAP-eligible households. There is overlap with the key stakeholders of the program and policy because of the similar nature of the two. A Customer, Actor, Transformation, World View, Owner, Environmental Constraints (CATWOE) analysis was completed to identify appropriate stakeholders for (AssistKD, 2015). See Table 1. A Responsible, Accountable, Supportive, Consulted, Informed (RASCI) table completed to ensure stakeholders with different knowledge and strengths were included in the process were identified (City of Pal Alto, n.d.). See Table 2 and 3.

The Cumberland County Public Health Department will play a vital role in the success of the produce box program and enacting the SNAP benefits at farmers markets policy. The strengths of the Cumberland County Public Health Department are their knowledge of the community, understanding social determinants of health, and experience of implementing programs and working with community stakeholders. This stakeholder is also important because they help complete the Cumberland County Community Health Needs Assessment (CHNA) on a three-year basis and an annual State of the County Health Report (SOTCH). The CHNA and SOTCH are valuable resources of primary and secondary data about the health of the community.

Cumberland County Board of Commissioners acknowledge an estimated 55,980 residence in the county are food insecure (Feeding America, 2018). To help decrease food insecurity and increase access to local produce, the Board will mandate the policy of Cumberland County farmers' markets accepting SNAP electronic benefit transfer (EBT) cards to decrease food insecurity and improve access to fresh produce. Their main task is to ensure that the objective and goals of the policy are clear. The Cumberland County Board of Commissioners will receive updates throughout the process.

Cumberland County farmers' market management teams, like The Fayetteville Farmers' Market Association, have many strengths to contribute to the implementation of accepting SNAP benefits at farmers' markets. This stakeholder has valuable knowledge on how farmers' markets operate, who the vendors and local farms are, and potentially be a resource to find other farmers' markets in the county to be a part of the Accountable Care Community (ACC). The Fayetteville Farmers' Market Association relationship with the farmers and vendors can help bridge the gap for hesitant participants and work to resolve differences. The expertise of knowing how Farmers' Markets operate will be key in working on an implementation strategy for each market that best fits their business model.

Vendors at farmers' markets play a supportive role in implementing SNAP benefits at farmers' markets in Cumberland County. Vendors, like Reilly Road Farmer's Market, already work closely and have a relationship with farmers' market managers. This established relationship is important for communication of ideas. The vendors have knowledge of the community members who shop at the farmers' market. Vendors also have unique access to the community as vendors. This access is important in helping to involve community ideas, suggestions, and evaluations. The vendors having access to the community in this manner is also a privilege and it is important vendors are able to communicate information to the community.

Cumberland County Department of Social Services is the SNAP provider for the community and have expertise in the SNAP benefits program. This expertise is important to enacting the policy because other key stakeholders and community members will to be educated on how SNAP benefits work. This partner can also be supportive by identifying SNAP participants in the community who would want to engage in the process of enacting the policy and program. The relationship Cumberland County Department of Social Services has with SNAP beneficiaries can inform on how to best communicate the new program and policy to the SNAP beneficiaries.

SNAP eligible households have an important role in the planning and implementation process. As the beneficiaries to the program and policy, they will be able to provide information on what does and does not work for them and the community. The SNAP eligible households can be aware of and bring on new partners from their experience with food insecurity.

Beth Maynard, Executive Director of Child Nutrition for Cumberland County Schools, will play a key role with the Cumberland County Health Department to develop and implement the produce box program. Her knowledge of nutrition standards and logistics will be valuable in brainstorming an implementation process. Beth Maynard has worked with the Cumberland County School System for the past 20 years and has insight on how processes of the school system work and access to community members who qualify for the produce box based on the students who are a part of other school initiatives to combat food insecurity. It is recognized that not every school in Cumberland County has the same resources needed to be a part of the produce box program. Beth Maynard will guide Nutrition Services at each Cumberland County School that participates to make sure the school has the capability and resources to be a part of the program.

Local farmers are a key stakeholder in providing produce boxes at Cumberland County Schools. The local farmers have knowledge of transportation of produce and will be responsible for assembling the produce boxes at their farms and transporting the boxes to the distribution

site. The produce boxes can be paid for in cash, with the hopes of expanding the program by allowing SNAP benefits to pay for the boxes.

School social workers and psychologist will be important in identifying children and families within the school that will be eligible for the produce boxes. Their expertise in working with children to identify basic needs will be a strength. They will also be able to provide the resource to other professionals in the county to expand the reach of the program.

Faith-based organizations and community volunteers can act in a supportive role. Designed after the back-pack buddies' program, volunteers can work at the local farms to back the boxes for the farmers. This would reduce the cost of the program because the farmers are not having to pay for labor to put the boxes together.

Jessica Soldavini, MPH, RD, LDN at No Kid Hungry NC will be an excellent consultant for this policy and project. She is an expert in increasing access to underutilized federal child nutrition programs. She can help the team brainstorm on ways to create better access and for locations for produce boxes.

It will take many people from the Cumberland County community to make the produce box program and SNAP farmers' market policy a success. Working on the local level, having a welcoming atmosphere, and creating buy-in will help build a solid foundation. Forming new partnerships will make a space for different ideas and creative processes to come together. Making fresh produce available and affordable to everyone will create a healthier Cumberland County by decreasing food insecurity and increasing the number of nutritional foods available to SNAP beneficiaries.

ACCOUNTABILITY PLAN – TELFER
MEMORANDUM OF UNDERSTANDING

between

The Cumberland County Department of Public Health

and

Reilly Road Farmer's Market

INTRODUCTION

Social determinants of health are “are conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes” (Office of Disease Prevention and Health Promotion, n.d.). Cumberland County, North Carolina has formed an Accountable Care Community (ACC) to address the social determinant of health economic instability. 18.8% of people in Cumberland County live in poverty (North Carolina Institute of Medicine, n.d.). A way economic instability is present in Cumberland County is through food insecurity. It is estimated that 55,980 people are food insecure in the county (Feeding America, 2018).

1.0 PURPOSE

The purpose of this Memorandum of Understanding (MOU) is to promote a sustainable ACC to create a healthier community by improving the social determinant of health economic stability through the reduction of food insecurity by reinforcing activities by and between the Cumberland County Department of Public Health (hereinafter referred to as HEALTH DEPARTMENT) and Reilly Road Farmer's Market (hereinafter referred to as REILLY ROAD). The HEALTH DEPARTMENT and REILLY ROAD shall remain separate entities, but for the purposes of participating in this MOU the combined efforts and activities will be referred to as IMPROVING ECONOMIC STABILITY IN CUMBERLAND COUNTY. To achieve a healthier community, the ACC will work to establish the policy of the use of SNAP benefits in farmers' markets in Cumberland County, NC. Cumberland County addresses food insecurity through the

Supplemental Nutrition Assistance Program (SNAP), with 54.9% of households with children participating in the program (Cumberland County Department of Public Health, 2019). SNAP alone is not enough to address food insecurity, as one in five residents in Cumberland county lack constant access to a reliable food supply, including but not limited to fruits and vegetables (North Carolina Division of Public Health, 2018). The policy encourages SNAP beneficiaries in Cumberland County to buy healthier food options by lowering the financial burden of the high cost of local fruits and vegetables. Similar policies across the U.S. have contributed to \$24.4 million in SNAP benefits being redeemed at farmers' markets in 2017 (Farmers Market Coalition, 2020). This is more than a 35% increase since 2012 (Farmers Market Coalition, 2020). Eating fresh fruits and vegetables is associated with better heart health, improved diabetes management, and reduced rates of obesity, therefore improving the health of the community.

2.0 PARTNERSHIP PRINCIPLES

The work of the HEALTH DEPARTMENT and VENDERS shall adhere to the following principles:

- 2.1 Value the contributions each partner makes and respect the boundaries each partner sets.
- 2.2 Keep at the forefront of conversations and decisions the overall aim is impact the social determinant of health of economic instability.
- 2.3 Educate each other on the expectations, support, needs, and interest each partner has.
- 2.4 Identify and set a communication strategy that allows open communication between partners.

3.0 ACTIVITY AGREEMENTS

The activities implemented under this MOU shall adhere to the following principles:

- 3.1 The project will maintain focus on improving food security to promote a healthier community and economic stability in the county.
- 3.2 Decisions will be made by both the HEALTH DEPARTMENT and REILLY ROAD.
- 3.3 The HEALTH DEPARTMENT and REILLY ROAD can appoint their respective staff members to this project.
- 3.4 All decisions will be evaluated for equity for all community members.

4.0 SCOPE OF ACTIVITIES: HEALTH DEPARTMENT

- 4.1 The HEALTH DEPARTMENT and REILLY ROAD agree to meet in-person once a month to disseminate and discuss information and make decisions in a timely manner.
- 4.2 The HEALTH DEPARTMENT, with the help of other ACC partners, agree to facilitate educational information pertaining to the policy, including, but not limited to social determinants of health, health information on Cumberland County, and information on the SNAP program.
- 4.3 The HEALTH DEPARTMENT agrees to research and disseminate transparent information on the process of using SNAP benefits at farmers' markets and what are the possible benefits and challenges of this transition.
- 4.4 The HEALTH DEPARTMENT and REILLY ROAD agree to work together, and with other ACC partners, on funding opportunities by giving relevant, factual, and timely information about operations at their places of work.
- 4.5 The HEALTH DEPARTMENT and REILLY ROAD agree to participate in creating and being a part of any promotional information for the ACC and use of SNAP benefits at farmers' markets in Cumberland County.

5.0 SCOPE OF ACTIVITIES: REILLY ROAD

- 5.1 The production processes of REILLY ROAD will continue to be the responsibility of REILLY ROAD.
- 5.2 The HEALTH DEPARTMENT and REILLY ROAD agree to meet in-person once a month to disseminate and discuss information and make decisions in a timely manner.
- 5.3 The HEALTH DEPARTMENT will be supported by REILLY ROAD in agreeing to fully participate in discussions.
- 5.4 The HEALTH DEPARTMENT and REILLY ROAD agree to work together, and with other ACC partners, on funding opportunities by giving relevant, factual, and timely information about operations at their places of work.
- 5.5 The HEALTH DEPARTMENT and REILLY ROAD agree to participate in creating and being a part of any promotional information for the ACC and use of SNAP benefits at farmers' markets in Cumberland County.

6.0 MEASURABLE GOALS

- 6.1 The HEALTH DEPARTMENT and REILLY ROAD will be able to demonstrate an understanding of what the SNAP program is and how Cumberland County residence can apply for it within the first six months of partnership of the ACC by doing a teach-back to knowledgeable community partners.
- 6.2 The HEALTH DEPARTMENT and REILLY ROAD, with other community partners, will decide which method of accepting SNAP at the Farmers' Market will best suit their location after nine months of the start of the projects.
- 6.3 The HEALTH DEPARTMENT and REILLY ROAD will be able to demonstrate an understanding of the process SNAP beneficiaries go through at the farmers' market to be able to purchase produce through a teach back by the first day SNAP benefits are accepted at Reilly Road Farmer's Market.

- 6.4 The HEALTH DEPARTMENT and REILLY ROAD, with the help of other ACC partners, will produce two promotional advertisements for the new program one month prior to the implementation of the policy at the Reilly Road Farmer's Market.
- 6.5 The HEALTH DEPARTMENT and REILLY ROAD will contact three potential farm vendors to be new partners of the ACC after the policy has been implemented for three months at Reilly Road Farmer's Market to encourage scale up efforts throughout the county.
- 6.6 The HEALTH DEPARTMENT and REILLY ROAD will complete an evaluation of the policy six months, one year, eighteen months, and two years after the policy is implemented at Reilly Road Farmer's Market and commit to making quality improvement based off of the evaluation data. Following the two-year evaluation, REILLY ROAD will complete an annual evaluation of the policy.

This MOU may be amended only by the written consent of the parties. In witness thereof, the parties have offered their signatures hereto:

HEALTH DEPARTMENT

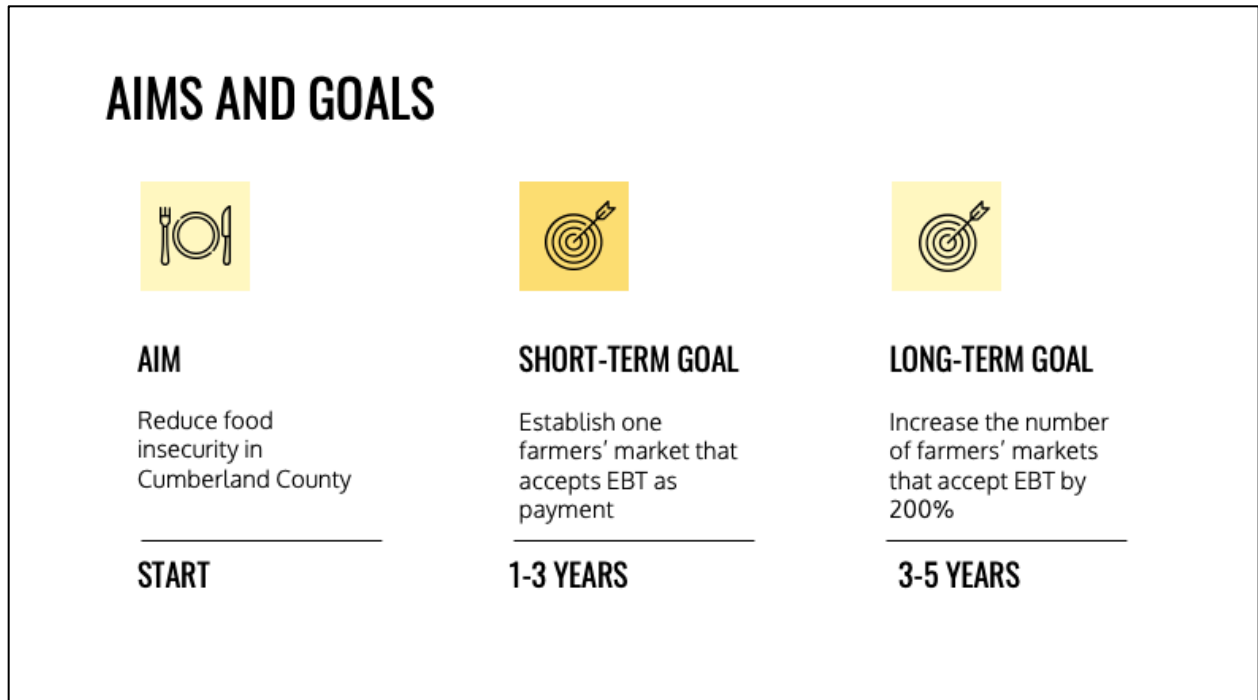
DATE

REILLY ROAD

DATE

PERSUASIVE PITCH PRESENTATION – TELFER

Slide Presentation [Excerpt] and Corresponding Script



Megan M. Telfer:

This proposal aims to improve economic stability through reducing food insecurity by implementing a policy that establishes EBT use for SNAP beneficiaries at farmers' markets in Cumberland County. The primary short-term goal is to establish one farmers' market that accepts EBT as payment and the primary long-term goal is to increase the number of farmers' markets who accept EBT. Reaching these goals will help reduce food insecurity in Cumberland County.

REILLY ROAD FARMERS' MARKET



**DIRECTLY
IMPACTED**

**LEARN NEW
SYSTEM**

**CUSTOMER
CONTACT**

**HEALTHIER
COMMUNITY**



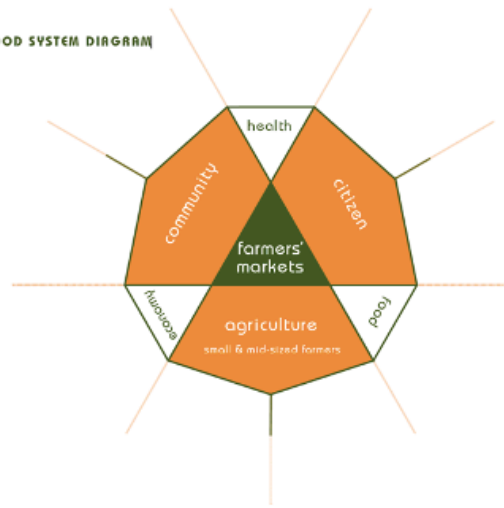
Retrieved from <https://www.facebook.com/ReillyRoadFarmersMarket>

Megan M. Telfer:

The first proposed ACC farmers' market vendor partner is the Reilly Road Farmer's Market. We will look to add more local vendors in the future. You are a valuable partner because you are the producers of the fruits and vegetables that will be sold. This policy will directly impact your business. An important role of the vendor will be to decide on and learn a new system for EBT payment. It will be important to understand the process of EBT at the Farmers Market, as you will be in direct contact with the customer. As a partner, you can contribute to productive distribution and purchasing of produce at local farmers' markets. Together, we can accomplish creating a Healthier community through increased fruit and vegetable consumption. Increased fruit and vegetable consumption is shown to help people manage chronic diseases, such as heart disease and diabetes. We can also increase autonomy of community by partnering with local farms to create more sustainable, locally grown food sources.

CONCLUSION

THE FOOD SYSTEM DIAGRAM



Wentzel M. and Himmans J. adapted from Leveraging the Farmers Market Systems to Build Healthy Sustainable Communities. Himmans J., Wentzel M., Badler M., Harris D., Diamond R., and Miller S. Under review.

Megan M. Telfer:

SNAP use at Farmers' Markets is already creating positive impacts. In 2017, \$24.4 million in SNAP benefits were redeemed at farmers' markets across the US, a more than 35% increase since 2012. In 2019, in North Carolina alone there were 95 SNAP-authorized farmers' markets. This rise in SNAP use at farmers' markets shows the impact of similar policies that have been implemented nationwide. With increased SNAP use at farmers' markets comes a boost to the economy as more people are purchasing local produce. This boost in local produce sales indicates that more people are accessing healthier foods and using the SNAP program for its intended purpose of assisting those who are food insecure to purchase nutritious food. Implementing a policy to be able to have SNAP benefits used at Cumberland County Farmers' Markets will directly benefit the community by addressing food insecurity. This policy gives farmers' markets a direct access point to provide local fruits and vegetables to those who are SNAP-eligible and experiencing economic instability, therefore improving health outcomes, including reducing heart diseases, diabetes, and obesity. We hope you will consider partnering

with our ACC as we seek to improve economic stability by reducing food insecurity through the use of SNAP benefits at farmers' markets in Cumberland County.

Table E-1 1

Customer, Actors, Transformation Process, Worldview, Owners, and Environmental (CATWOE) Analysis

C – Customers	Who are they, and how does the issue affect them?	<ul style="list-style-type: none"> • People/households that qualify for SNAP in Cumberland County (especially households with children at Cumberland County Schools) • Local farmers
A - Actors	Who is involved in the situation? Who will be involved in implementing solutions? What will impact their success?	<ul style="list-style-type: none"> • Local farmers, specifically Reilly Road Farmers' Market • Cumberland County Board of Commissioners • Cumberland County Department of Public Health • Cumberland County Department of Social Services • Cumberland County Schools
T - Transformation	What processes or systems are affected by this issue? What is the transformation that lies at the heart of the system?	<ul style="list-style-type: none"> • Increase access to affordable fresh fruits and vegetables • Maximize use of SNAP benefits

W - Worldview	What is the big picture and what are the wider impacts of the issue?	<ul style="list-style-type: none"> • Access to healthy food • More economically stable community (therefore, more food secure)
O - Owners	Who owns the process or situation you are investigating? What role will they play in the solution?	<ul style="list-style-type: none"> • Cumberland County Department of Social Services (regulate SNAP) • Cumberland County Department of Public Health • Local farmers
E - Environmental Constraints	What are the constraints and limitations that will impact the solution and its success?	<ul style="list-style-type: none"> • Number of farmers' markets in Cumberland County • Seasonal (centered around when produce is available/markets are open) • SNAP - how helpful can it be? How much do people receive/month?

CATWOE Analysis was completed to understand food insecurity in Cumberland County, NC from multiple stakeholders' views to process the problem.

Table E-1 2

Responsible, Accountable, Supporting, Consulted, and Informed (RASCI) Matrix

RASCI Levels		
Who is...	<u>Policy</u> Transformation	Rationale For Partner Participation
Responsible =owns the problem / project	Local farmers' market management (Cumberland Co PHD - Megan)	Manages the distribution and sales of farmers market produce and products to SNAP-eligible customers.
Accountable =ultimately answerable for the correct and thorough completion of the deliverable or task, and the one who delegates the work to those <i>responsible</i>	Cumberland County Board of Commissioners Cumberland County Public Health Department	Mandates the policy that all farmers markets' are required to accept EBT. Overall, they assign who leads the project and are responsible for making sure there is completion of the deliverable. Delegated by Cumberland County Board of Commissioners to take responsibility to make sure the deliverable is achieved.
Supportive =can provide resources or can play a supporting role in implementation	Community customers, farmers, and vendors at farmers' markets	Can contribute to productive distribution and purchasing of produce at local farmers' markets.
Consulted =has information and/or capability necessary to complete the work	Cumberland County Department of Social Services SNAP-eligible households and community members	Researches the steps for farmers' markets to receive EBT and acts as a liaison between the local farmers' market management and state and federal level to achieve the policy Provides insight into the customer side of the farmers' market experience, their needs, what will work well, etc.

Informed =must be notified of results, process, and methods, but need not be consulted	SNAP-eligible households and community members	Community members will be engaged at various steps of the process, and will be continuously informed and incorporated into the decisions surrounding the policy.
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RASCI Matrix was completed to identify key stakeholders to address food insecurity in

Cumberland County, NC through a county-wide policy.

Table E-1 3

Responsible, Accountable, Supporting, Consulted, and Informed (RASCI) Matrix

RASCI Levels		
Who is...	<u>Program</u> Transformation	Rationale For Partner Participation
Responsible =owns the problem / project	Nutrition Services at Cumberland County Schools (CCS) at each school Local farmers	Organizes the school participants and receive the boxes Assembles produce boxes and transports
Accountable =ultimately answerable for the correct and thorough completion of the deliverable or task, and the one who delegates the work to those <i>responsible</i>	Beth Maynard, Executive Director of Child Nutrition for CCS Cumberland County Health Department	Assists with development of the program and delegates program to all schools, ensures completion of the deliverable (produce boxes) with the farmers Helps to organize the program on a macro level and helps delegate tasks to those who are responsible.
Supportive =can provide resources or can play a supporting role in implementation	School social workers (and psychologists) Cumberland County Department of Social Services Faith-based organization/community volunteers	Helps to identify students who qualify for the program and serves as a mechanism for providing resources Provides resources and refers people applying for SNAP to this program. Modeled after backpack buddies, have faith-based organizations gather volunteers to help put together food boxes at the farms.

<p>Consulted=has information and/or capability necessary to complete the work</p>	<p>Jessica Soldavini, MPH, RD, LDN at No Kid Hungry NC</p> <p>SNAP-eligible households and community members</p>	<p>Resource to help brainstorm ways to increase access to underutilized federal child nutrition programs, and locations for produce box delivery and transportation.</p> <p>Provides information on what would work best for eligible participants and provides feedback on quality improvement</p>
<p>Informed=must be notified of results, process, and methods, but need not be consulted</p>	<p>CCS administrators</p> <p>SNAP-eligible households and community members</p>	<p>Important to keep CCS administrators abreast of the program so they are not only aware, but also have buy-in and can advocate for the program among other community leaders.</p> <p>Community members will be engaged at various steps of the process, and will be continuously informed and incorporated into the decisions surrounding the program.</p>

RASCI Matrix was completed to identify key stakeholders to address food insecurity in

Cumberland County, NC through a county-wide program.

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